

VOLUME XV

OCTOBER, 1920

NUMBER 6

BULLETIN.

OF

THE AMERICAN ASSOCIATION OF UNIVERSITY PROFESSORS

ACADEMIC FREEDOM AND TENURE STATEMENTS

PUBLISHED BY

THE AMERICAN ASSOCIATION OF UNIVERSITY PROFESSORS
20TH AND NORTHAMPTON STS., EASTON, PA.

EDITORIAL COMMITTEE: JOSEPH ALLEN; G. R. COFFMAN;
MARGARET L. FARRAND; H. W. TYLER, *Chairman*

26 JACKSON PLACE
WASHINGTON, D. C.

Issued monthly except in June, July, August, and September

Entered as Second-class matter, April 24, 1922, at the Post Office at
Easton, Pa., under the act of August 24, 1912.

Acceptance for mailing at special rate of postage provided for in Section 1103,
Act of October 3, 1917, authorized on September 13, 1918.

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NOTES AND ANNOUNCEMENTS

ANNUAL MEETING.—The annual meeting will be held with that of the American Historical Association at Duke University and the University of North Carolina, December 28 and 30. The program is expected to include, in addition to the usual business, special reports and discussions on Required Courses in Education, College Athletics, Public Utilities Propaganda, the new Appointment Service for College Teachers, etc. Addresses are also expected on the work of the American Bar Association and the American Medical Society as related to the program of our own Association.

THE STATUS OF EVOLUTION.—The following resolution on the Present Status of the Theory of Evolution has been adopted by the Executive Committee of the Council of the American Association for the Advancement of Science:

Inasmuch as the attempt has been made in several states to prohibit in tax-supported institutions the teaching of evolution as applied to man, and

Since it has been asserted that there is not a fact in the universe in support of this theory, that it is a "mere guess" which leading scientists are now abandoning, and that even the American Association for the Advancement of Science has approved this revolt against evolution, and

Inasmuch as such statements have been given wide publicity through the press and are misleading public opinion on this subject;

Therefore, the executive committee of the Council of the American Association for the Advancement of Science adopts the present resolution, which is a reaffirmation of the resolution adopted by the council of the association at the fourth Boston meeting, December 26, 1922, in order that there may be no ground for misunderstanding of the attitude of the association, which is one of the largest scientific bodies in the world, with a membership of more than 18,000 persons, including the American authorities in all branches of science. The following statements represent the position of the council with regard to the theory of evolution:

1. The Council of the Association has affirmed that so far as the scientific evidences of the evolution of plants and animals and man are concerned, there is no ground whatever for the assertion that these

evidences constitute a "mere guess." No scientific generalization is more strongly supported by thoroughly tested evidences than is that of organic evolution.

2. The Council of the Association has affirmed that the evidences in favor of the evolution of man are sufficient to convince every scientist of note in the world, and that these evidences are increasing in number and importance every year.

3. The Council of the Association has affirmed that the theory of evolution is one of the most potent influences for good that have thus far entered into human experience; it has promoted the progress of knowledge; it has fostered unprejudiced inquiry; and it has served as an invaluable aid in humanity's search for truth in many fields.

4. The Council of the Association is convinced that any legislation attempting to limit the teaching of any scientific doctrine so well established and so widely accepted by specialists as is the doctrine of evolution would be a profound mistake, which could not fail to injure and retard the advancement of knowledge and of human welfare by denying the freedom of teaching and inquiry which is essential to all progress.

INTER-AMERICAN INSTITUTE OF INTELLECTUAL COOPERATION.—An Inter-American Congress of Rectors, Deans, and Educators will meet in Havana, Cuba, in February, 1930, to consider a project for the organization of an Inter-American Institute of Intellectual Cooperation. It is proposed that the Institute be composed of a National Council in each of the American republics and a central coordinating Office, the Division of Intellectual Cooperation of the Pan American Union serving at first in that capacity. The purpose of the Institute would be "to assist and systematize the activities that tend to establish intellectual cooperation in the branches of science, arts, and letters between the nations of the American continent."

Plans for intellectual cooperation to be discussed by the Congress include: interchange of students, professors, and research workers; promotion in the schools and universities of studies tending to develop mutual understanding; and cooperation among scientific and professional bodies for the purpose of working out international projects.

INTERNATIONAL FELLOWSHIPS.¹—The number of fellowships existing in the United States to enable American students to study in foreign countries and foreign students to study in the United States is amazingly large. . . .

The figures at my disposal just now lead me to put the number that have been founded specifically as international fellowships, covering at least tuition, board, and lodging, as 1645. Of this number 467 are for Americans studying abroad and 1178 for foreigners studying in the United States. Included in the latter figure, however, are fellowships offered by American colleges which are open to foreign students in equal competition with American students. Moreover, some colleges and universities offer an indefinite number of tuition fellowships to foreign students depending chiefly upon the qualifications of the applicant. It is impossible to state with anything like accuracy the number of such fellowships available. The university catalogue sometimes states merely that fellowships are available without giving the number. I should judge that altogether there are not less than 400 fellowships available for foreign students to study in the United States in addition to the number mentioned above. As the majority of these are usually merely tuition fellowships, few are filled by foreign students, most of whom cannot afford to incur the traveling and living expenses which would be necessary were they to secure a tuition fellowship.

The conditions of award for international fellowships are so numerous that merely to enumerate them would be confusing. I have divided the fellowships, therefore, into three classes: (a) those that require the Ph.D. or its equivalent in scholarship; (b) those that require a Bachelor's degree or its equivalent upon the part of Americans, and graduation from a Lycée or Gymnasium or institution of equivalent standing for a foreigner; (c) those open to American undergraduates and to foreigners who wish to pursue undergraduate work in an American institution and are qualified to do so.

As far as I can discover, 585 fellowships of the first class were available last year: 443 to study in the United States and 142 to study abroad. The qualifications for these fellowships are quite definite. They are usually intended for persons between the ages of twenty-five and thirty-five; the exceptions are made in the case of older scholars for special reasons. . . .

The majority of the fellowships of the first class are for research

¹ Report of the Thirtieth Annual Conference of the Association of American Universities

or study in some field of pure or applied science. This is true of the fellowships of the National Research Council, the Rockefeller Foundation, and the International Education Board. The modest stipends in this class offered by the American Council of Learned Societies and the valuable Social Science Research Council Fellowships are in the field of the humanities. Those offered by the Guggenheim Foundation and the Laura Spelman Rockefeller Memorial are awarded to men and women in all fields of scholarship and activity. . . .

Of the second class of international fellowships, *viz.*, those that require a Bachelor's degree from America and graduation from a Lycée or Gymnasium or institution of equivalent standing for a foreigner, there were last year 253 for Americans studying abroad and 233 for foreigners studying in the United States. The qualifications for these international fellowships are naturally less exigent than for those of the first class. These fellowships are usually intended for students who have recently graduated from college and who obtained high standing in general scholarship and showed particular interest and capacity in some one field of scholarship. They give opportunity to pursue that subject in a foreign institution, and the candidate's ability to do so must be vouched for by his former professors. Ordinarily there is a requirement that the applicant be sufficiently familiar with the language of the country in which he is to study to carry on his work. . . .

Scholarships of the third class are intended for students who are known to us as "undergraduates." This class includes those like the Boxer Indemnity Scholarships, which permit a Chinese student to enter the class of an American college for which he is fitted by preparation. On the other hand, it includes the scholarships which have been provided for the movement known as the Junior Year Abroad to be given to American students who have completed sophomore year and who are vouched for by their professors as qualified to undertake the rigid regimen organized for those who pursue the "Cours de Civilisation française" at the Sorbonne. Ordinarily the qualifications for these undergraduate scholarships are good health, good character, and high scholarship in the classes preceding the one a student wishes to enter. The supervision of the holders of these scholarships is naturally more careful than in the case of the others. Regular reports at frequent intervals and personal interviews with someone in charge are often required. Last year the number of such scholarships was 574, of which 502 were for foreigners

studying in American colleges and 72 for Americans studying abroad. The former were held almost entirely by students from the Far East and Latin America; the latter almost entirely confined to the Junior Year Abroad movement. . . .

In the majority of cases international fellowships do not restrict the holder to any particular country or nationality though there are important exceptions. The Rhodes Scholars must be Americans who wish to study in Great Britain, the Commonwealth Fund scholars must be British who wish to go to the United States, the Fellows of the Commission for Relief in Belgium must be Belgians wishing to study in the United States or Americans wishing to study in Belgium. The American Field Service Fellowships are exclusively for study in French universities. The Boxer Indemnity Fund Fellowships are confined to Chinese who must study in the United States, and there are others with similar restrictions of place and nationality.

In nothing so much as in stipends do fellowships in all classes differ. . . . In most cases the stipends for fellowships in the first class are determined by the needs of the individual holders and no fixed amount is allotted. The nearest approach to an average in addition to traveling and tuition allowances is \$1500 for a single man and \$2000 for a married man.

The greatest difference in the amount of the stipend is found among the fellowships of the second group. The highest is \$2500 a year and first-class traveling expenses for holders of Commonwealth Fund Fellowships. These have been made large because the holder is required to spend his vacation in traveling about the United States and becoming familiar with the varied aspects of its life. The next highest are the Commission for Relief in Belgium Fellowships and the Rhodes Fellowships which carry a stipend of \$1800 a year and first-class traveling expenses. The average stipend for holders of fellowships of the second order is, however, considerably less, usually \$1400 or \$1000. The American Field Service Fellowships for French Universities of the Institute of International Education are \$1200 each and the American Scandinavian Foundation Exchange Fellowships are \$1000 each, and in neither case are traveling expenses allowed in addition. Nevertheless, they are much sought after.

In most cases fellowships of the third class, *i. e.*, for undergraduates, cover the cost of tuition, board and lodging, and nothing else. The student must ordinarily meet his own traveling expenses. This is so great a hardship for many keen and capable students that some

foreign governments and organizations grant the minimum sum necessary for the journey, the student usually traveling tourist class.

STEPHEN P. DUGGAN
Institute of International Education

FOREIGN STUDENTS IN THE UNITED STATES.—The Association of American Colleges Committee on Friendly Relations among Foreign Students reports the following countries having one hundred or more students resident in the United States during 1928-29: Canada—1173, China—1109, Japan—814, Philippines—804, Russia—504, England—369, Germany—360, Mexico—271, Porto Rico—250, India—208, Italy—203, Hawaii—144, Korea—131, France—122, Greece—120, Poland—117, Cuba—111, Switzerland—101.

FELLOWSHIPS FOR WOMEN.—The American Association of University Women has recently published a history of fellowships awarded from 1888 to 1929. The total number includes 28 in mathematical sciences, 43 in the biological, 64 in the social, 39 in language and literature, 2 in library work. The actual number of fellows, deducting those counted twice, is 147, of whom 40 are included in the 1927 edition of *American Men of Science*; 69 are college professors, 111 are single.

TUITION FEES.—A comparative study of tuition fees in 271 endowed colleges, made for the Association of American Colleges, shows the following general trends: The independent institutions average higher fees than the denominational institutions. Geographically, fees run in a descending scale from New England to the Middle Atlantic states, Western, Middle Western, Southern. Women's colleges average the highest tuition fees; men's, second; coeducational, third. The largest institutions average the highest fees; the smallest, the lowest. The larger the community, the higher the tuition rate.

A complete report of the survey may be found in the *Association of American Colleges Bulletin* for May, 1929.

INCOME TAX.—A decision under which expenses incurred in attending scientific meetings may be deducted by a professor in computing his taxable income was reported in the *Bulletin* for March, 1929. For the convenience of members personally interested Professor

A. Silverman, Pittsburgh, reports that the decision is filed as Docket No. 10389 of the Federal Board of Tax Appeals.

SURPLUS BULLETINS AND REPRINTS.—Members wishing copies of the following reprints may secure them through the Washington Office, gratis, by sending postage: General Reading for Undergraduates, Sectioning on the Basis of Ability, Pensions and Insurance (1922), Initiatory Courses for Freshmen, Constitution, Extra-Collegiate Intellectual Service, Bibliography of Methods of Increasing the Intellectual Interest and Raising the Intellectual Standards of Undergraduates, The Degree of Doctor of Philosophy, Place and Function of Faculties in University Government, Educational Relations with Alumni, Preceptorial or Tutorial System, Inter-collegiate Football, General Final Examination in the Major Studies, Foreign Language Requirements for the Degree of Doctor of Philosophy. Back numbers of the *Bulletin* are also available at 35 cents a copy. It is urgently suggested that members and chapters, who plan to fill in the gaps in their sets of *Bulletins*, do so immediately, since many numbers will soon be unavailable. Attention is also called to the following issues of which the stock is virtually exhausted: July, 1915, April, 1916, May, 1916, November, 1916, January, 1917, April, 1917, January, 1918, March, 1920.

PERMANENT OFFICE.—The Secretary having returned to the Massachusetts Institute of Technology on the expiration of his leave of absence, the management of the Washington Office has been assumed by the Treasurer, Professor Joseph Mayer, who has been granted leave of absence by Tufts College for this purpose.

EDITORIAL.—With the current issue the *Bulletin* loses the valued service of Professors Farrand (Smith) and Coffman (Boston). Professor Farrand has served on the Editorial Committee from its organization in 1927. Professor Coffman has given particular attention to Reviews. The new members of the committee are Professors Mayer and Kaufman (American University) the latter also succeeding Professor Farrand in charge of general publicity.

APPOINTMENT SERVICE REGISTRATION.—Those members contemplating changes for next year should register with the Appointment Service at once so that their names can be presented when the spring appointments are under consideration.

ACADEMIC FREEDOM AND TENURE COMMITTEE A

MARSHALL COLLEGE.—In 1927, two full professors were dropped from the staff at Marshall College (Huntington, West Virginia). One of these professors received very short notice; the other was summarily dismissed. The two were given a joint hearing before the responsible Administrative Board, but this hearing did not come until long after the original determinations to dismiss the teachers had been reached and announced.

The Chairman of Committee A (then Professor A. M. Kidd) looked into the matter carefully and decided against attempting an investigation. As an alternative, efforts were made to prepare for publication a statement and criticism of the procedure which had been followed. This involved a chronology of the case together with a summary of the charges and counter-charges. Unfortunately all attempts to frame a statement along these lines failed because one side or the other earnestly denied the fairness of every draft prepared. Hence, the idea of publishing such a summary has had to be abandoned.

The present Chairman of Committee A (Professor H. R. Fairclough, May, 1929) considers that the case should not be closed entirely without published comment. Newspaper reports and correspondence connected with the dismissals, and particularly the record of the hearing before the Administrative Board, left the impression that academic tenure at Marshall College was not adequately safeguarded or even precisely defined. This was particularly serious because under the laws of West Virginia, appointments to the teaching staff were from year to year only.

After prolonged negotiations between representatives of the Association and President M. P. Shawkey of Marshall College, the College Council on January 16, 1929, adopted an encouraging declaration of policy with respect to appointments and tenure. In transmitting a copy of this declaration for the information of the Association, President Shawkey writes:

"This is the first recorded statement of our policy on matters of this kind, and it was understood to be but a basis upon which we should build as the institution grows and our policies are matured."

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“This is the first recorded statement of our policy on matters of this kind, and it was understood to be but a basis upon which we should build as the institution grows and our policies are matured.”

By way of explanation it should be interpolated at this point that although Marshall College is a long-established institution, recent alterations in its standards have been so radical that the modern college is, for all practical purposes, only about four years old. The declaration above referred to reads as follows:

"Teachers shall be expected at all times to hold the interests and service of the institution as of primal importance. Likewise, the College shall regard itself as under obligation to protect and promote the welfare and happiness of its teaching force in the fullest possible degree.

"In the employment of members of the teaching force and in the assignment of duties to teachers, the deans of the two colleges of the institution shall exercise the chief responsibility. After conferring with heads of departments, deans will recommend to the president the employment or discharge of teachers, and it shall be the duty of the president to report the joint action of the deans and himself to the State Board of Education for approval or rejection. Until after two years of teaching, all faculty appointments are to be regarded as probationary. No faculty member of professorial rank who has served more than one full year shall be dismissed without an opportunity to be heard by the College Council. When a case is heard by the College Council, a separate recommendation will be made to the State Board of Education whose action by law is final."

In view of this declaration there is reason to hope that future conditions of academic tenure in Marshall College will be more clear and satisfactory than they were in 1927. While the Secretary and the Chairman of Committee A have carried on most of the correspondence involved, it should be stated that Dr. Arthur O. Lovejoy cooperated very helpfully and conducted a useful conference with President Shawkey.

MICHIGAN STATE COLLEGE.—For the information of members of the Association, Committee A presents a brief statement of the controversy which has arisen at Michigan State College in connection with the discharge of President Kenyon L. Butterfield.

After many years of service as President of the Massachusetts Agricultural College, Dr. Butterfield, in 1924, accepted a unanimous election by the Michigan State Board of Agriculture as President of Michigan State College.

During the academic year 1927-28, Dr. Butterfield was granted leave of absence until May 1, 1928, to attend a conference at Jerusalem. At a meeting held April 18, 1928, the State Board of Agriculture extended his leave of absence to July 1, 1928. This action was taken without Dr. Butterfield's request or knowledge, and as a preliminary to his discharge. Simultaneously the Board substantially discharged three members of the staff and the entire force of assistants in the President's office by cutting out appropriations for their departments during the academic year 1928-29. The staff members involved included Dean John Phelan, who had been unanimously elected after interviews with the members of the Board; Dr. Clara Powell, adviser of women; and Mr. John D. Willard, director of continuing education. No reasons were given for the Board's action in respect of these officers. There was no warning of the impending action, and no hearing was granted.

On his return, May 1, 1928, Dr. Butterfield appeared before the Board, and there was discussion of the action taken at the meeting of April 18, 1928. At no time, either then or subsequently, has the Board submitted charges of a sufficiently definite nature to enable any of the officers dismissed to make an intelligent defense. Neither has the Board ever issued any formal explanation of its action, despite inquiry by a committee composed of alumni and citizens. Newspaper guesses and assertions have been allowed to stand unchallenged.

It is not customary for Committee A to print statements relative to the treatment of administrative officers by Boards of Trustees or other corresponding bodies. But in this case the action of the Michigan State Board of Agriculture appears to suggest that the tenure of members of the teaching staff at Michigan State College may be no more secure than that of Dr. Butterfield and his administrative associates.

Committee A has not deemed it advisable to investigate the dismissals above described. The foregoing statement is derived principally from a printed statement issued by Dr. Butterfield. Before publication the Chairman of Committee A submitted his statement to the Michigan State Board of Agriculture with a request for comment or correction. No reply has been received.

EDUCATIONAL DISCUSSION

SHOULD PROFESSORS' SALARIES BE HIGHER?—An impression widely prevails that teachers in colleges and universities, especially in those situated in urban communities, supplement their regular salaries to a considerable degree by additional earnings. To ascertain whether this impression is based on fact, the General Education Board asked for information on this point from the teachers themselves. From the several colleges of arts, literature, and science and the corresponding departments in universities 11,361 teachers replied. Of this number 7557—66.5 per cent—reported that they supplemented their regular salaries for the nine months' session by other earnings. . . . Teachers in men's and coeducational institutions supplemented their salaries in larger proportion than teachers in women's colleges—more than two-thirds of those replying from the former, and less than half of those replying from the latter, added to their regular earnings. Family responsibility appears to be a compelling factor. Of the 7376 married teachers, 77.2 per cent supplemented their regular earnings, while but 46.7 per cent of the 3927 single teachers did so.

The teachers were asked to state whether they did extra work from necessity or from choice: 71.9 per cent reported they did it from necessity and 28.1 per cent from choice. Of the 6550 expressing preference, 77.2 per cent preferred to do regular work only.

Of the 11,361 teachers answering the questionnaire nearly one-fifth replied that they had private unearned income of an appreciable amount. Apparently appreciable private income had little effect on whether its possessor did additional work. . . .

The first question I ask then is this. Should the salary scale be widened, not by lowering the minimum but by making the maximum flexible to permit salaries to distinguished scholars and teachers, as attractive, all things being considered, as they would receive in other callings? If there were a few large salaries to which the ambitious might aspire they would act as a stimulant to the whole profession, and would enhance its prestige and tend to raise the salary level. They would make it possible to recognize individual differences whereas a uniform salary scale tends to adjust itself to the least able members of the group and in general makes for a low salary scale. I am also in favor of paying larger salaries to the younger faculty members to bring them above the minimum as rapidly as possible,

to enable them to care for the needs of their families. Many of the teachers stated that their most difficult time financially was during the early years of teaching, when their salaries were small and the family expenses were heavy. Temptations to leave the profession at this period are very strong. . . .

The other difficulty, which I have called social, is likely to be caused by the faculties themselves because of their unwillingness to have salaries paid to exceptional persons which do not conform to the salary scale. This attitude makes it difficult for the administration to recognize marked ability among the faculty or to invite distinguished scholars from outside. I feel confident this recognition would be an advantage to the profession as a whole and would benefit the particular faculty concerned.

The second question relates to extra earnings of faculty members. . . . From the survey we discovered that two-thirds of the teachers did extra work and added 23.8 per cent to their regular salaries. These extra earnings would equal about 15 per cent of the total faculty salaries. Would not the situation be greatly improved if the institution should add 15 per cent to its pay roll to meet the needs of those doing extra work and thus be in a position to control and regulate it? It then could encourage those outside activities which were beneficial both to the teacher in enlarging his vision and to the institution in enlarging its contacts and service, and it could discourage participation in those which were solely pot-boilers.

Many of the extra activities in which teachers engage are desirable both for the college and for the teacher, and I do not advocate their elimination, but I suggest that wherever possible they be made part of the regular work and arranged for on their merits, as is the case with the other work of the institution. In other words, I am suggesting that in Colleges of Arts, Literature, and Science the so-called full time principle be the objective sought. . . .

I shall not prescribe the methods to be used in controlling outside work; I am simply raising the question for your consideration. However, since need of a larger income seems to be the present cause, if the college should meet this need it might properly ask the teacher to give up outside work except in cases mutually agreed upon.

My final observation relates to the so-called permanent tenure. Permanent tenure applies as a rule only to the range of professor and associate professor and is the outgrowth of several factors and conditions, the chief of which are:

1. The difficulty of changing to another calling in middle or later life.
2. The fact that a change to another educational institution usually involves removal to another community.
3. The small salary paid imposes some compensating obligation on the institution, and in addition some expectation as to a retiring allowance.
4. The desire to assure the teacher freedom of speech and free expression of truth as he sees it, and to protect him from being the victim of unreasoning prejudice on the part of trustees, students, and public.

These are important considerations and I do not wish to minimize them, nor do I think that the teacher should be deprived of any of the safeguards which the peculiar conditions of his calling demand, but I am wondering whether the custom, in its one-sided application has not had its disadvantages and whether it has not operated to keep professors' salaries at low levels more than any other factor. . . .

I have known instances where university trustees were willing to pay a large salary to secure a distinguished scholar if the principle of permanent tenure had not prevailed. Has not this custom, making possible a permanent refuge to some persons of mediocre ability who are unwilling to subject themselves to the tests of fitness which prevail in other walks of life, diminished the prestige of the profession of college and university teaching? Should not teachers in the higher institutions of learning receive a financial reward, all things being considered, as attractive as that which is given in other fields; and are they not more likely to obtain it if they are willing to make some concessions regarding permanent tenure? I leave this suggestion with you for your earnest consideration. . . .

TREVOR ARNETT,
Association of American Colleges Bulletin

UNIVERSITY FEDERATION IN CANADA.¹—Our educational problems are in a large measure like yours. We are attempting, too, to solve some of them by similar methods. There is, however, one experiment which has proved successful in Canada of which it may interest you to hear. It is closely related to the problem to which

¹ Extract from an address before the Association of American Colleges

I have alluded—how to keep liberal education from being submerged by the flood of those who seek it.

About forty years ago the legislature of the Province of Ontario passed an act which provided for the association with the Provincial University of other colleges and universities which might wish to join forces with it under a scheme of "university federation." The plan, which has never been substantially changed, divides the instruction in the humanities between the university proper and an indefinite number of colleges, of which one is a "University College," a state-controlled body conducted by the university itself. Under the plan there was established a teaching faculty in the university proper in certain subjects including those requiring laboratory equipment. The federated colleges are required to provide their own instruction in the remainder of the field. Examinations are conducted and all degrees, except those in divinity, are conferred by the university alone.

The purpose of the plan of federation was originally to economize the financial and educational resources of competing foundations. The most difficult task of its authors was to safeguard the traditions and the corporate entity of federating institutions, and in particular to preserve their religious autonomy. The latter end was accomplished by giving constituent colleges the control of all subjects of instruction which might be religiously controversial.

A due share in the academic government of the university as a whole is guaranteed to the colleges by giving them the right to elect an appropriate number of their members to the senate of the university, which body has supreme authority over all purely academic matters, as distinguished from those connected with finance, property, and appointments. The latter are the concern of a board of governors. The colleges, however, retain their own administrative machinery and local independence in all matters not subject to university regulations. In short, the plan is a true federation.

Such, in very brief outline, is this system of university organization which I believe at the time of its inauguration was unique. Since the Enabling Act was passed in 1887, full advantage has been taken of its provisions. The first institution to enter federation with the University of Toronto was a Roman Catholic college possessing faculties in arts and divinity. A few years later, a long-established university of the Methodist Church (now merged in the United Church of Canada) became a constituent college of the university.

Its example was followed a few years later by a university conducted by the Church of England and possessing old traditions. In addition to the four colleges of arts which are now grouped within the university, three divinity schools are enjoying the advantages of university federation. The plan has long since passed the experimental stage. It is regarded on all sides as a demonstrated success. Its example has been followed in many Canadian universities. There are, for instance, three Roman Catholic dioceses in Canada whose divinity schools have entered into relations with the local universities similar to those existing in Toronto.

THE HONORABLE VINCENT MASSEY,
Minister from Canada to the United States

RESEARCH PROFESSORSHIPS.¹—After I had accepted the task of opening a discussion of the subject of "Research Professorships" I began to wonder whether I was expected to approach the topic from the point of view of the appointment of certain professors with the specific title "research professor" or with reference to the recognition of research as the main or exclusive function of some professors without the use of the specific title. Ultimately I came to the conclusion, which I hope to justify, that in the last analysis the use of the specific title is not only extremely undesirable but also secondary to the necessity of a more thorough awakening of our universities to the obligation of supporting research by granting its professors more freedom and facilities in the exercise of this function, and thus recognizing them as research professors in fact rather than by name. . . .

There are other functions of professors which are specified by various titles, but the consideration of three classes is sufficient for our purposes: (1) deans, etc., (2) research professors, (3) professors.

The last class may encroach more or less on the functions of the other two classes either by service on committees or by creative effort in or out of the laboratory or library, but this classification implies that the third class should devote itself to teaching. Why not, then, be entirely up to date and say in addition that the professor shall teach students rather than subjects, and that only a research professor may be free to teach subjects, if he so chooses?

Throughout the country the coming to the front of research can no more be retarded than a cork can be kept under water by pushing it down. In the meantime, we are constantly faced with the criti-

¹ Address at the Thirtieth Annual Conference of the Association of American Universities

cism that teaching in universities is deteriorating, and one of the chief causes is attributed to the research activities on the part of professors. Is the motive of designating some research men as "research professors" to justify the research activities of a few, and then to turn our attention to the improvement of the teaching qualities of the others? If so, we are in danger of losing sight of the fact that university teaching and research must go hand in hand, as everyone knows who has creatively contributed to the world's store of knowledge. . . .

Last year our Committee on the American Council on Education expressed the hope of being able to persuade deans of graduate schools that colleges need not scholars merely, but scholars who can teach. If professional training in formal teachers' courses is ever to become a requirement for higher degrees, I trust that this will come about as the result of carefully planned experiment rather than enthusiasm for a theory. Every one of our college and university activities, teaching included, is subjected to improvement. Yet taking our colleges and universities decade for decade for the last fifty years, who would deny their steady advancement in the opportunities they offer for the higher development of our youth? . . .

The fallacy of those who define university professors as teachers in the sense of college professors or high-school teachers consists in their failure to realize that students should be expected to enter *universities* with a sense of responsibility to themselves: to study and to advance, primarily through their own efforts, and to consider themselves well taught if they are admitted to intercourse in classes, by lectures, in laboratories, in seminars, or even informally, with authorities in the field in which they wish to advance, and if they receive inspiration, guidance, and leadership. . . .

And now to make matters worse we are seriously considering an even greater latitude for research professors. This shows that the facts may be faced squarely in more than one way. The unsupported and unjustifiable criticism directed by some professional educators against colleges and universities implies that they alone can save what they imagine to be a serious situation. Another survey seems to be in order. I should not have touched on this matter of professional educational training of college and university professors if it did not involve the very life of our graduate schools, including the legitimacy of research and the training not merely for but *by* research. It would almost seem that it is claimed that

Ph.D.'s are poor college teachers because they are trained for research but, not finding employment in research, become teachers. Fortunately, many of the Ph.D.'s continue research, often under great sacrifices, along with teaching. To be trained *by* research produces in the student, yea even in the prospective college teacher, a comprehension of how the vast scholarly background in his field, which is one of the requirements for the Ph.D., has been created and to what extent it is collapsing or progressing. Think of physics, chemistry, biology, etc. If the prospective college teacher were to rely merely on a professional education training and on recent textbooks in the field he has studied, he would soon be stale and out of date. The student trained for teaching *by* research has learned to grow with his subject. Thereby he can teach its foundations and elements more intelligently. That is why we believe in the Ph.D., or equivalent training, even for college teachers. . . .

A few of the characterizations of research professorships which have thus come to my knowledge are:

A Research Professor is like a Dean because he receives more salary.

A Research Professor is exempt from teaching and therefore is not expected to inspire students with his genius.

A Research Professor is a professor who has a large sum of money to spend for research material and assistance.

A Research Professor is a highly distinguished Professor Emeritus.

A Research Professor is one who may be asked questions by graduate students but need not answer them.

Research Professorships are a new form of advertising.

Research Professorships are a new form of swank to create prestige.

Research Professorships are an admission that universities are only just awakening to research as one of their main functions and are a new development in American University Life.

These flippant characterizations spring, of course, from a feeling of resentment that research activity is not considered one of the chief functions implied in the title of "professor" as a matter of course. We need not, however, look at the effort of giving distinct recognition to research as a new development but rather as a method of increasing recognition of what should be one of a university's principal activities. No doubt the worthy object in creating research professorships by title is to give more prominence and opportunity to research. . . .

Of the twenty-eight members of the Association twenty-six have replied to the questionnaire. Of these only five use the designation "research professor" as a title: Illinois, North Carolina, Princeton, Toronto, and Virginia. Ohio State, with three research professors at present, hereafter will not appoint or promote to that title. At Columbia one or two hold the title, but it is no longer the policy to use it. At Cornell two hold it in agriculture, but these appointments appear to be exceptional. At Nebraska there is also one such exceptional appointment. In the five institutions using the title its introduction was prompted by exceptional circumstances, chiefly either recognition of special grants (North Carolina, Virginia) or of research endowments (Virginia, Princeton). At Illinois it is confined to the Engineering Experiment Station. In the few other cases, negligible as a university policy, professors have been accorded the title as a recognition of their exceptional research qualifications (Toronto, North Carolina). . . .

While special endowments, if accepted, might obligate an institution to the use of the title and while some institutions favor the title on account of the benefit of special endowments to research, the majority of our members consider the special title as unsoundly discriminatory and therefore undesirable. Even a professorship especially endowed to afford freedom and facilities for research does not of necessity need to have the title attached to it in order to make it serve its purpose.

If, as it appears to be recognized, the possibility of research is inherent in all university professorships, then the use of the special title "research professor" can merely emphasize the degree of freedom and of facilities for research. But, as stated above, there is no difference in practice between the two classes. There is a danger that the use of the special title may be detrimental to the research activities of those not holding the title on account of the implication that the duties of the ordinary professor are more those of teaching than of research. . . . The university in which this function is fully recognized will flourish in its achievements for the benefit of mankind and in the quality of the leaders which it produces. An institution which does not rise to its obligation can be a university in name only and not in fact. . . .

Until recently the larger universities were the victims of attack which has led many parents to direct their sons and daughters to smaller institutions. In these institutions the faculty often cannot

be kept up to date as readily as in the larger institutions which are awake to the importance of research. The pendulum now seems to swing in the other direction with the growing dissatisfaction of the college teacher who is a recent Ph.D. graduate. The solution of this problem seems to lie in the first place in a better organization of the colleges themselves, and only secondly in a more direct introduction of Ph.D. candidates to teaching than is now practiced in large institutions. In any case the advice and cooperation of professional educators should be welcomed. It might be a promising experiment for university departments of education to offer to Ph.D. candidates an optional course intended as an introduction to college teaching. Such a course would prove its value by the results which it would accomplish. . . .

Irrespective of the use of a special title for professors distinguished in research or of the methods adopted for the promotion of research, the research spirit manifest in our leading universities has placed the American institutions that are universities in fact, rather than only in name, in the front rank of the world's educational institutions. To enable American universities to accomplish their mission in accordance with their prevailing high ideals, the support, spiritual and financial, of the nation at large is indispensable. There is every indication that the outstanding achievements of American science, industry, and scholarship are awakening the people at large to an appreciation of research as one of the main functions of a university and that in future our institutions of higher learning will enjoy the support of research to an even greater degree than heretofore.

A. O. LEUSCHNER,
University of California

BUSINESS AND EDUCATION—AN AMERICAN VIEW.¹—What is a liberal education? The answer to this question may be in part anticipated when it is asserted that undeniably a part of liberal education consists in studying appreciatively many things which none of us can ever control—conspicuously among which are the past, with its rich coloring of traditions and meanings—indeed just the variegated pattern that it is—and the far-distant stars and places that even our fired imagination cannot disturb. We are speaking here of the unattainables of life, and we beg leave to count ourselves among those

¹ Part of an address delivered at the annual meeting of the Harvard Teachers' Association

who refuse to accept any pragmatic explanations of such appreciable values in terms of creation or control. . . .

Appreciation is an attitude which is directed not only to unattainables or uncontrollables; it may be cultivated just as well in regard to matters which we ourselves cannot control but which others do. Tolerance is a function which can well be made an educational objective, not to the exclusion of individual development but certainly as a compromise with the creativist theory. To know what another man is doing is to learn to tolerate both him and it. "I can't," said Charles Kingsley, "hate a man I know." And the situation is as true among the mutual relations of geniuses as it is in the relations between the genius and the mass.

The point at which the argument is directed is that education can ill afford to pin its faith exclusively to a program of directly fitting a student for his life work. The underlying difficulty with any scheme of vocational education is that it is apt to become too narrow and therefore self-destructive. Liberality in education is no more to be achieved by allowing individuals separately to pursue their chief interests exclusively than a general happiness can result from individual pursuits of pleasure. Carlyle once observed that such a doctrine was equivalent to expecting table manners to evolve by increasing the number of pigs at the trough. A liberal education consists, in part at least, in studying fields of activity that may not directly be connected with the objective of a life purpose.

In a recent article in the *Atlantic Monthly*, George Herbert Palmer pointed out what he regarded as a most significant contribution of the American college. In Europe prospective business men seldom go to college, and their intellectual contact with professional men and scholars is limited to the preparatory schools. Whatever critics may say of our inefficient collegiate training in America, such as there is, is shared by business men. And no one denies the value of this state of affairs. One of the results of this situation is the munificence of business men in this country, especially toward colleges and universities, in striking contrast with the situation abroad. And much of the difference between the American and the European attitude is to be explained by the fact that the American business man, say what you will in criticism of him, has sensed the value of college and university ideals. The spirit of the article might lead us easily to the question: If the study of other than business subjects is already regarded as a necessary part of the liberal education of

the business man, why cannot the study of economics or business be likewise regarded as necessary in part to the liberal education of those who do not intend to enter the field of business?

The difficulty now becomes apparent. Traditionally we have regarded business as an inferior occupation and its activities as representative of values that play only a minor and instrumental rôle in the social pattern. To study business as a part of our cultural heritage seems like a contradiction in terms. This attitude we have inherited from the medieval church, which in turn derived the doctrine from Plato. It seems strange that Greek thought, the secular clarity of which emancipated it from the superstitions of previous and other peoples, should have taken so seriously the mysteries of the East, and left us with a heritage that despises economic and business values. . . .

The attitude was transmitted through Plotinus to the church, which made "flesh" and "lucre" share alike in its condemnations. It is difficult to determine what would have happened if the guilds had continued independently to develop their own rules and regulations in opposition to this point of view. But they succumbed to the growing power of the state, in the form of newly arising, vigorous nationalities, and made way before the extension of the more rigorous Roman and common law. . . . The whole matter resolves itself to this, that the exotic control of the church over business has not been the blessing it was intended to be; and as in the case of a similar disposition on the part of the state, the effect has been frequently mutually unsatisfactory.

But today we are faced with a new phenomenon, the self-assertion of business through the reactions of business men themselves. Not only have church and state failed to keep up with the growing complexities of industry and commerce, but business men themselves have shown an increasingly determined disposition to govern their own affairs. Are the objectives of business of such a character as to warrant their inclusion, beside those of church and state, science and art, in the pattern of justifiable absolute social values? Is there a sufficiently mutual interplay among the values of business and other social values as still further to accord a dignified place to the instrumental values of business activities? Certainly no one who has followed the history of an investment issue or of the organization of a corporation can deny that creative imagination of the first order is here at play. . . .

I am not pleading for the introduction of business subjects into a crowded curriculum for young people who are later going to enter business or a business school. These students should indeed be encouraged to pursue other subjects. But the future minister, lawyer, politician, engineer, laborer, artist, scholar, teacher, would do well to get acquainted with the facts of the business world; not that he may learn to play the stock market but for the same reason that admits the humanistic value of da Vinci's "Madonna of the Rocks" and Guicciardini's local histories. For once, a picture contained a real flower; for once, a historian wrote about the things that were happening about him. Tradition and history are necessary to any matured culture, but they are not sufficient; Greece and the Renaissance give the lie to him who despises the homely events of his contemporary environment. . . .

The most subtle problem of business ethics consists in discovering the sanctions which prevail in business activities and which therefore must be relied upon in order to effect the appropriate measure of control over business conduct. Whether this control will be relatively extrinsic or intrinsic rests, in large part, with business men themselves and the educational processes to which they are subjected in the formative periods of their lives.

CARL FREDERICK TAEUSCH,
Harvard Graduate School of Business Administration

INDUSTRY AND THE UNIVERSITIES—A BRITISH VIEW.—Some say that unnatural vice was the ruin of the great civilizations of Greece and Rome, but I think the explanation is too simple; and while (like everybody else) I have read the *Symposium* of Plato, I do not recollect that the simpler-minded Romans were much addicted to that indulgence. I think, with Dr. Palewski, that there is a much likelier explanation in their common contempt for industry, the simplest proof of which is the fact that neither in Greek nor Latin was there any word for a free man's labour. They despised work indeed for different reasons: the Greek because he valued leisure and the free play of the intellectual faculties above everything, the Roman because he was by nature a Turk; but they certainly did despise it, and certainly also the foundation of Western civilization since their time is to be found in the grand old Jewish tradition, which the sons of Abraham had carefully kept to themselves until Christianity spread it all over the world, that the central plot of the

human drama is the salvation of the individual soul, and that this (like an earthly livelihood) is only to be obtained by honest toil of one sort or another; hence "the gospel of work" and of "the dignity of labour;" and hence also, and almost by accident, the wealth of nations who have believed in it. . . . In England especially the aristocratic or classical ideal which is so typical of the eighteenth century has always more than held its own against the Christian or (if you prefer it) the sentimental view.

I mean by "the classical ideal" the ideal of the Athens of Pericles, with which everyone is familiar—the ideal of a rich and many-friended man with ample means and ample leisure for the pursuit of truth and beauty in their subtlest forms, not the mere *gourmet* of Mr. Clive Bell's *Civilization*, but one who takes his part in the public life of his country in peace and war, and is altogether a man of great abilities and well aware of them, the finest product of the pagan world, a man who does everything well except those menial tasks which are beneath a gentleman.

Now this ideal, which can quite evidently never apply to any but a very few—since it is the absolute condition of existence (so far as we can see) that the majority of mankind shall labour daily, and for the greater part of the day, week by week and year by year, practically without ceasing, so long as they are able—this ideal is implicitly, if not explicitly, the key-note of what is best in our Public School system and the older universities. And, so far as it goes, it is a very fine ideal. But so long as schoolmasters and dons continue to apply it, with the inevitable corollary that a gentleman must do nothing useful, and that anyone who goes into industry is a lost soul (and probably incapable of passing any one of those examinations which are still insisted on by the "learned" professions), so long will the impressionable mind of youth believe this nonsense, and, in the absence of private means or any particular bent for this or that, set out upon the impious task of teaching for what it is worth. (I intend no reflection upon teaching for teaching's sake. I can imagine nothing finer. It is teaching from cowardice or lack of initiative that I object to—teaching because it is safe and respectable. It is.)

And so, largely through the fault of schoolmasters and dons, it remains true that we, in industry today, are simply those who have been unable to get a better job. We are either the rejects of the educational system, or related to the management, or both. We are cut by the curate, and in all probability we shall never earn as

much as the vicar. We work probably from nine till six, five and a half days in the week, about fifty weeks in the year, and most of our off-time is spent in games with the lads. There is nothing to attract a good man to it, and there will never be. There is no official "entry," and there never will be.

(Nothing? Yes, there is one thing which to me is worth all the rest, and that is liberty. This may sound like a paradox. Liberty to work all day, and under orders all the time?

What I mean is this: In every other walk of life you have to fear God and honour the King and all that sort of thing, and you have to waste long hours in testifying in public to these emotions.

Now God is more to be feared and the King is more to be honoured than young men are always ready to allow; but not under compulsion.

In industry there is perfect intellectual freedom. But I understand that intellectual freedom is very little thought of nowadays.)

There is no guarantee that any man, even with a first-class academic brain, will ever be worth five hundred pounds a year, and there never will be. (He is just as likely to find himself out of work, as I did seven years ago.) And dunces and dunces politely tell us that we have bowed down to Mammon and sold ourselves to the devil!

Much of this cannot be altered, but that last illusion can. And it must be. The curse of industry today is the lack of education among the managers, which becomes daily more intolerable and grotesque as industry becomes more complicated, and as elementary and secondary education progressively present us with better and better types of workers. I understand by "an educated man," a man with a mind large enough to realize his own utter unimportance and the utter unimportance of his daily round, and to realize at the same time that his daily round, while he is at it, is the only thing that matters. Only the universities can give us such men, and we want the very best of them—not necessarily the first-class brains, but men of good average ability who are the natural leaders of their fellows.

Education, after all, is a very recent innovation, and it is the rarest thing in the world to meet an educated man or woman over thirty in industry today. That is very largely our trouble, because the uneducated foreman or manager has a natural and instinctive dislike of the better-educated juniors who are coming to us now—except in very exceptional cases.

There is also a great deal to be said against education. It dissipates the mind, whereas the one thing needful in industry or commerce is concentration. If you take a typical literary or artistic man, bubbling over with restless curiosity, it is plain at once that his very multiplicity of interests has quite unfitted him for affairs. (That, I believe is the foundation of the old and excellent opinion that philosophers are fools.) And if you take a really fine scientific mind, it is nearly always one-sided, after the well-known manner of experts, "who know more and more about less and less." There was a pathetic obituary notice of a well-known American psychologist in the papers the other day: "He was a marvellous man in a laboratory, but in ordinary life he was often fooled." Just so. And industry is ordinary life, of the very ordinariest. It demands not brains but common sense and sheer tenacity, and in the higher branches *will* almost more than anything; and you don't train a man's will by giving him good books of any sort, or by letting him mix things up in a bottle. I don't know how you do train it. I only know that but for my own four or five years of Army service I should have been almost useless in industry; and much as I hate war in theory and in practice, I often wonder if there really is any substitute for Army discipline as a means of making young men devote themselves wholeheartedly to uncongenial tasks; for naturally most tasks are uncongenial, anyway at first. The only substitute I know is want, and I don't know that I admire want much more than war; but it is certainly true that much of the undeniable contempt for education which you will find in industry is due to the unfortunate experience which real workers have had (I do not necessarily mean by "workers" those who get their hands dirty), of the failure of schools and universities to make anything but snobs and drunkards of their employers' sons and cousins.

Seriously, what *do* you expect the university to do for those who have no visible excuse for being there except their ability to pay the fees? For some years I used to think that they served no useful purpose at all, but with the greater tolerance that comes with middle age (a most admirable time of life), I have come to take the view that they *are* of real value in hitting us clever ones over head and teaching us early and often that there are other things in the world besides intellect and intelligence—which of course there are.

That is a very valuable lesson for us, but what about its effect

on the hitters? Well, I don't know. . . . But for heaven's sake don't turn them loose on industry. It is the clever ones we want—the sort of men who used to become Bishops and Abbots in the Middle Ages—enterprising poor men's sons, with no illusions.

We don't want them as experts or "technicians." We want them to run the show. They must come to industry with their caps in their hands and ask for a job at a pound or two a week, and think themselves lucky if they get it, and trust to their own abilities entirely to make their careers for them, as they surely will. And when they do this in large numbers, and not till then, I shall gladly admit that our educational system is playing its proper part in producing men and women to lead this country in peace as well as in war.

I wish it was.

H. F. SCOTT STOKES, *The Universities Review*

REGULATING ATHLETICS.—Your Chairman submitted to all the members of the Commission on College Athletics of the Association of American Colleges a proposal for a regulation embodying a set of rules providing the best elements in all the regulations of the various associations, and they gave their hearty approval. We have had a wide correspondence with all these bodies. In the end we got together on the new official rules of the North Central Association. We believe that they are sufficient and represent the best thought on this matter. Furthermore, they have the advantage of having been adopted practically without change by a number of important bodies and we believe that all the associations and conferences of the United States can get together on them. We present, therefore, for your consideration and recommend for adoption two provisions which are identical with those adopted by the North Central Association as their Articles 3 and 4, Articles 1 and 2 being general statements of their object.

Article I (Identical with *Article III* of the North Central Association).—That a list of accredited athletic conferences be drawn up by this commission, and any member institution maintaining a membership in good standing in any one or more of these accredited athletic conferences be considered without further action to be maintaining approved athletic standards.

Article II (Identical with *Article IV* of the North Central Association).—That in the case of member institutions that do not maintain membership in good standing in such an accredited athletic

conference, the following standard of athletic principles be adopted as determining the basis of accrediting.

1. Final decision in all matters of athletic policy shall rest with the faculty or with administrative officers representing the faculty.

2. Academic requirements and assignments of scholarships, student aid funds, and remunerative employment for students, shall be immediately and finally controlled by the faculty, acting directly or through its regularly constituted officers or committees, without discrimination either in favor of or against athletics.

3. Payments of money to students for services as athletes, hiring athletes, or the equivalent of such procedure, and maintenance of free training tables are not permissible.

4. Personal solicitation of prospective students by athletic coaches through the offering of any such special inducements as are indicated in Sec. (3) above is not permissible.

5. Coaches should be regularly constituted members of the faculty, fully responsible to the administration.

6. Faculties should control and keep within reasonable limits the amount of time devoted to athletics. This refers to hours of daily practice as well as to the number of contests and length of trips or any other athletic requirement which detracts from academic efficiency.

7. Athletic conditions should be normal and stabilized and tenure of office on approximately the same basis as in other departments, and, where this is the case, salaries of coaches should be commensurate with salaries paid to men of equal rank in other departments, and should be paid directly by the institution.

8. All athletic funds shall be either regularly audited by or directly handled and disbursed by the institution's business office. All athletic expenditures should be included in the institution's budget.

This Association, which represents a choice of the acceptable colleges of America, needs to go farther than any other body toward elevating the tone of American institutions. It should set the lead by adopting a regulation to raise the ideals of college athletics. Your Commission proposes, therefore, the enactment of a standard of the following purport:

Article III.—The acceptable college encourages high-class athletics as an ally of educational efforts, with a proper place in the curriculum and in harmony with the purposes of higher education. This Association stands against such abuses as commercialism, professionalism, and sensational exploitation of college teams by promoters within or without the college. The tone of athletics must be in harmony with the general tone required of a member institution. The management and control of the athletics of an institution should be vested

in a small, effective, and responsible body chosen from the chief administrative officers, especially the president, the deans, and the athletic committee with the free support of the trustees. These provisions are conditions of membership in the Association of American Colleges.

BERT E. YOUNG, Indiana University,
Association of American Colleges Bulletin

THE DEPARTMENT OF EDUCATION IN THE LIBERAL ARTS COLLEGE.—A few years ago the American liberal arts college was a happy institution. "Academic quiet" is a fair description of the atmosphere in which it lived. Its curriculum was simple; its stated aim was single. Its student body was fairly homogeneous and not too large. . . .

Now all this is changed. No longer may the college offer a unified curriculum. No longer will the public schools accept for teachers whatever product the colleges have to offer. The public insists upon determining the elements of the curricula of its secondary schools according to its own notions of the local needs. Professors of education have appeared in the faculties of the liberal arts colleges. Many of them have been critical of the college as to its aims, curricula, and methods of teaching. The liberal arts professors have resented with much bitterness this enforced intrusion of these newcomers with "heretical" ideas. As the enrolment in the high schools has increased by rapid strides in recent years so has the demand for high school teachers increased and with it the number of professors of education. In the larger universities a separate "college of education" has been the result, but in the greater number of smaller schools the maximum development has been the "department of education." At the same time the public through its legislatures and state departments of education has been increasing constantly its demands on the colleges in the way of requirements for the obtaining of a state certificate or license.

So rapid have been these changes, and so rapid has been the increased enrolment in the colleges due to the rapid growth of the high schools, that in a great many of the older-type liberal arts colleges great confusion of both purpose and conduct has arisen. With this confusion, in many cases, there has been a corresponding increase in mutual criticism between the liberal arts and the education professors, not only in amount but in bitterness. . . .

And so we have the problem, how may the present confusion of thought and emotional stress existing in many of the liberal arts

colleges be allayed and a method of constructive readjustment set up in their place? The achievement of a mutual understanding between the departments of education and the other departments in the faculties of those liberal arts colleges doing teacher training on a professional basis is only one phase of the larger problem; we shall confine the discussion to this one phase as being of sufficient magnitude and importance for the limits of this article. We shall discuss, first the *causes* of the mutual misunderstanding, second, some of the evil *results* that follow, and, third, suggest some possible *remedies*.

Merely to call attention to some of these causes will suffice to suggest remedies to the mind of the thoughtful reader. Others will need more careful examination.

Both history and psychology indicate that the human mind does not receive new ideas readily when they appear to be inconsistent or in conflict with long established notions. The "academic mind" has been no exception to this principle. . . . All of these "new" movements were regarded upon their appearance as attempted intrusions into the sacred precincts of the hallowed ancient culture. In all of them were said to lie a base utilitarianism and a charlatan appeal to the multitude. Jealousy often arose as the result of the popular acceptance of the newer movements. Academic halls echoed with gloomy predictions of the disappearance of culture, the downfall of religion and morality, and even the decay of civilization. . . .

On the other hand, "new" movements have been characterized by a certain "youthful" enthusiasm on the part of their leaders for the reform of the world, resulting too often in a thoughtless challenge to all that was good in the old order, unseemly personal ambitions, the exploitation of students, a certain aloofness, and an unwarranted assumption of the superiority of whatever was "new" and "modern." There has always been at the outset a lack of acquaintance and personal association on the part of the leaders of both sides. Re-adjustment and peaceful adaptation have come only as personal contacts were established, and comprehension has arisen only from a thoughtful study of each side to the controversy by the other.

But there are some features of the present conflict that have their foundation in the peculiar causes of it. In the first place, the vocational preparation of high school teachers has been forced upon the liberal arts colleges largely by legislation. The alternatives have been, either train teachers as the state as employer desires or close

the college doors to a vast number of applicants for admission. Force is always a source of anger, and particularly in America. The sensing of this outside pressure which has seemed to the colleges like interference has added much to the heat of academic opposition. . . .

There is an apparent incompatibility between liberal and vocational education. An able college president stated recently that these two ideas could not exist in the same institution. Yet the fact is, they do so exist, and must exist together in the education of even the same individual. A vocational education without an adequate accompanying cultural development results in machine-like attitudes in the conduct of the vocation in later life; whereas an extended cultural education in advance of and separated from any preparation for a vocation is an economic impossibility for a large proportion of those enroled in the modern college, and especially those who expect to enter public school teaching. . . .

Much confusion arises from the coming of students in the final year of college work to a realization of a desire to prepare for high school teaching. The confusion is just as great in the departments of education as in the subject-matter departments; in each group all sorts of readjustments must be made. In those colleges where systematic vocational and educational guidance is begun with the freshmen or even with the applicants for college entrance, this source of confusion and misunderstanding between "education" and liberal arts is disappearing.

The type of training the average holder of the Ph.D. degree in a liberal arts field has received is no doubt a factor of much importance in creating a dislike for discussions of methods of teaching. When we invent another degree of equal rank with the Ph.D., to be based on preparation for teaching rather than the present elaborate preparation for research, but founded upon the same high requirements of general scholarship as the Ph.D., and maintain a separate staff of research workers who need do little or no teaching, we shall have made long strides toward a better understanding on the part of liberal arts instructors of what all the "educationist's" discussion of "methods" is about. . . .

There is still one more specific cause of the ill feeling that exists that must be mentioned. The majority of teachers of "education" have, previous to their graduate study and entrance into college teaching, been teachers for several years in the public high schools. The liberal arts professors assume that these people have attained

no more than the low level of scholarship that is supposed to be the possession of the average public high school teacher. No one seems to have any idea that such a person could be in any measure a specialist in any subject-matter field. On the other hand, the professor of education too often assumes just as erroneously that liberal arts professors are "impractical" scholars, without teaching skill of any sort, and with no experience outside academic walls. This mutual low rating of the personnel of the "other side" is unquestionably the source of much needless trouble and confusion. . . .

But the college does not exist for the professors or the trustees, although we sometimes forget the fact. The students constitute the real "center," and it is upon them the damage that may result from confusion and bitterness falls. Angry or misguided liberal arts professors advise students against taking education courses, hold these courses up to ridicule, and insist the state has no right to determine the qualifications of its employees and cannot enforce its demands. Consequently, students who intend to teach put off the planning of courses in education until too late to meet the requirements, or take the education courses in a state of mental rebellion or cynicism that militates against the happiness of the student and his maximum efficiency in the education classes. Other students are given bad advice sometimes by education professors, and evolve an attitude of disregard for some or all of the work in liberal arts, are satisfied with a low level of scholastic attainment and often fail in actual teaching as the result. . . .

One suggestion frequently made is the administrative action of placing all the courses in education in a fifth and graduate year, to be taken after the completion of the four-year A.B. course. There are two very cogent objections to this procedure. First, the present economic status of those who must commonly seek to become teachers is a serious bar. Nor does the present wage scale for public school teachers warrant such a course. . . . But a second objection lies in the very nature of teacher training. Preparation for teaching consists to a very large degree in the acquisition of the subject-matter courses taught by the liberal arts departments. Every subject in the curriculum, practically, lends itself in some degree to this end. Moreover, students of the theory of teacher training are a unit in insistence upon making this acquisition of subject-matter scholarship as nearly simultaneous with the study of psychology and method as practicable. The teachers' colleges and normal schools combine the teach-

ing of subject-matter and method in a given study in the same course in order to keep the association of the two as close as possible in the mind of the student. In this respect teacher training differs in method from that of the other professions to quite a large extent. . . .

On the psychological and personal side, there must arise a different attitude on the part of both sides to the controversy. The professors of education, being the proponents of a new aim to be added to the old one of the liberal arts college, bear the obligation for initiating efforts to bring about a better understanding. Let them practice restraint in criticism, the fullest courtesy in all their dealings with the aspects of the controversy, and be patient to explain the purposes of their work.

They should make it so clear it can never be forgotten again by the liberal arts professors that those engaged in the preparation of teachers fully recognize the fundamental importance of adequate scholarship as an absolutely necessary basis of teacher training, and that the acquisition of this scholarship is one of the fundamental elements in the process. . . .

On the other hand, may it be hoped the liberal arts professor will meet the professor of education half way in an attempt to explain dispassionately the aims and content of his own work, and will seek further to understand the real meaning of the newer department of education. . . .

Group discussion should take the place of the private criticism and even bitter recrimination that too often now exist. Personal association between the leaders of the opposite sides not only should be encouraged but provided for in every way possible. Much misunderstanding results from lack of personal acquaintanceship.

L. J. BENNETT, Ohio Wesleyan University,
School and Society

THE MODERN UNIVERSITY IN FICTION.—The majority of university teachers really are profoundly interested in the subject that they profess, and devote a great part of their energies to the study of it. To leave this out is to leave out perhaps the most important element in university life. And yet it is a natural temptation for novelists to leave it out. For it is not an easy thing to make interesting to the ordinary reader. And when they have left that out, if they are true to life in the rest of what they give, we get the subdued tones of Miss Freeman's novel (*Martin Hanner*). If they try to make

up for it by putting in something else, like Mr. Carruthers (*Adam's Daughter* and *Lothian Cameron*), we get the element of melodrama, which rings so false as part of the picture of a university. And yet though difficult, it ought not to be impossible to interest the ordinary reader in this side of university work and life. A great writer could make a real drama out of the progress of scientific or historical discovery. Something of the kind, indeed, has been attempted with, in my opinion, a considerable degree of success by one or two American writers. Mr. Sinclair Lewis's *Martin Arrowsmith* and Miss Cather's *The Professor's House*—a book of exceptional beauty—both make use of this aspect of the subject, though, of course, they do not confine themselves entirely to it. It is to be hoped that someone some day will be inspired to do the same thing for our modern English universities.

G. C. FIELD,
The Universities Review

EDUCATIONAL RELATIONS OF THE PROFESSIONS.¹—To American educational progress, specialization in various academic divisions has contributed greatly. With the increase of specialization, however, has come the danger of one educational unit isolating itself from another. . . . The independent college is constantly facing isolation from graduate and professional schools; and each of the latter from all the educational achievements in other divisions of the academic world. Conscious of the danger, some of these divisions have learned the importance of cooperating in the solution of common problems, especially the colleges and the schools represented in the powerful regional associations. Among the professions and professional schools the danger likewise exists and to some extent has been met in the same way. . . .

Are the professions getting the gifted students from the colleges? Are the theological seminaries securing men competent to become the spiritual leaders of our country? How do they determine that a candidate has a "vocation," a real call of God to His service? Are the law schools receiving men who will measure up to Mr. Hughes' conception of a man at the bar? Are the gifted college men and women entering medicine? Is medicine getting all it needs of such students? Are its students as good as those who go into engineering,

¹ Extract from address before the Annual Congress on Medical Education, Chicago, February, 1929

business, teaching, law, the ministry? Nobody knows. To be sure, 20,000 applications by 8900 persons have been studied, of whom 6400 were accepted and 5200 actually entered the medical schools; and it has been shown that 73 per cent of those who entered during the last ten or fifteen years were graduated.

The correlations of college grades and medical school grades have been studied. Grades are apparently the most useful standard we have as yet. But since 1910 we have been learning a great deal about school and college grades and their shortcomings. . . . Then began the tremendous movement to secure more accurate, objective, and comparable measurements of educational achievement. Intelligence tests, so called, were tried. Today, psychologists say those things were not measures of intelligence but, to quote Prof. Knight Dunlap, "measures of a certain kind of achievement at a given time under certain conditions." . . .

"Intelligence tests," then, have given way to various kinds of measurements which may be called achievement tests. . . . Combined with the high school grades the achievement tests, including the psychologic tests, have given a more reliable basis for admitting students to college.

The professions likewise may find such achievement tests useful. The church boards of education have cautiously inquired about these measurements in connection with recruiting for the ministry. Law schools are experimenting. Medical schools are showing an interest in tests of this type. . . .

A scholastic aptitude test for medical schools has been made by Dr. F. A. Moss and Dr. O. B. Hunter of George Washington University Medical School. It is proposed to use it as a determining factor in selecting students. During the first ten minutes the student studies a diagram and a paragraph about the heart and great vessels; during the next five minutes the student studies a passage such as may be found in medical literature. Then for the remainder of an hour the student, working as rapidly as possible, takes six tests: (1) a scientific vocabulary test of forty items; (2) a test of premedical information (100 items); (3) a visual memory test of twenty items based on the diagram first studied; (4) a memory content test based on the paragraph first studied (twenty items); (5) a comprehension and retention test (twenty items) based on the passage in "Speech Defects," and finally (6) a test of the "understanding of printed material" (fifteen items). In its preliminary form the test

was tried with the 1927-28 freshman class of the George Washington University Medical School. Purely on the basis of the scores made, it was predicted that ten of the seventy-eight students would be dropped or required to repeat a year of work before they completed the medical course. At the close of the first year five of these students were dropped for poor scholarship and two were made to repeat the course. Of the other three the average grades in the medical school were below 80 (75 being the passing grade). In a revised form the test was given to the class entering in September, 1928. On the basis of the scores it was predicted that seven of the eighty-three students would be dropped or made to repeat at the close of the year. Of these seven students, up to the present time, two have been dropped for poor scholarship and the average grades of the rest are 71, 78.6, 66.6, 44.3, 61.3—all but one below passing. A comparison of the test scores with the grades in medical school gives the very high correlation of 0.72. In studying the scores of this year's group, Dr. Moss predicted purely on the basis of the test scores that eight students would win distinction or grades near distinction. So far, six of these students have grade averages of 90 or above and the other two are in the upper half of the class. . . .

Obviously, if convenient tests which will reliably predict academic success in professional schools can be worked out, a great waste can be avoided for the individuals and institutions which now are losing time and energy in trying to make educational adjustments which cannot be made. Not only at the time of admission are these tests important; even more significant is their use in final examinations for degrees. If we can determine the attainments which we desire a person to have if he is to receive a D.B. or an LL.B. or an M.D., and if we can devise objective tests of these attainments we shall rid our whole educational system of relatively meaningless time measurements and we shall, if we develop the already important program of discovering and guiding the abilities of the individual, solve the problem of economy of time in education to which the Council on Medical Education and Hospitals vigorously directed attention in 1915 and which still, in spite of some evidence of progress, awaits solution. . . .

Achievement tests are making grades and other scholastic measurements of men more reliable. But the church desires to know the character of a prospective minister; the bar wishes to be sure of the virtues of men who are to be lawyers; and the medical profession

wants to learn something about the ethics of future medical practitioners. Industry has been especially insistent in its desire to know about the personality of its possible recruits. The colleges are trying to find out. The American Council on Education Committee on Personnel Methods has devised a personal record card for the use of schools and one for the use of colleges. On it are recorded such items as will enable a dean of a medical school to gain a more complete understanding of a man than grades and test scores will give him. Achievements of unusual quality, extra-curriculum experiences, records of employment, vocational interests, social background, and personality ratings are recorded.

Personality measurement in the past in the army, in industry, and in education has been based on rating scales. In the opinion of the Committee on Personality Measurement, the rating scale has not yet proved its reliability. To give the device a fair trial the committee has made the best one I have seen by keeping down to five the items to be considered on a five step scale expressed as objectively as possible. The scale is being widely used among colleges, some having embodied it in their admission application forms. . . .

Descriptions of personality in terms of significant actions observed are being accumulated in the colleges for the guidance of college officers, possible employers, and deans of professional schools.

The situation is just what it is in the rest of the world's work. When this has been analyzed and the skill and qualities required for particular positions have been specified, the schools and colleges can shape their curriculums and methods of instruction to attain more quickly the objectives of education as they pertain to the professions and to other vocations. Already the American Council on Education has been able, in cooperation with certain industries, to secure descriptions of several thousand positions which college men and women are called on to fill. The state department has just completed such a description of the work of the foreign service officer. Other departments of the government are formulating their records of usage, finding the experience of use within the department as well as helpful to the colleges in understanding the needs of the department. A single individual makes a record of performance describing all the activities pertaining to a particular job or position. Then the records of performance of several individuals who did the same job are cumulated in what is called a "job specification." Finally a composite of the job specifications of a group of

similar jobs in a variety of organizations give us what is called a record of usage. Some may have seen the book by Professor W. W. Charters, in which, behind a forbidding title, *Basic Materials for a Pharmaceutical Curriculum*, he has analyzed a field of importance to medicine. It is the hope of some of us that such a record will arise out of the valuable studies being made by the Commission on Medical Education. When medicine has furnished the colleges with such a record of usage it will be possible to provide a curriculum more directly effective in training men and women for the medical profession and in helping to choose them wisely.

A description of the profession of medicine based on such a study, placed in the hands of gifted students at the time when rich corporations are tempting them from medicine and research, will in itself help to enlist the right kind of student. Vocational guidance in the colleges is just beginning. . . .

Without losing the advantages of specialization I hope that each division of education will afford every other one the advantage of its experiences and that each will welcome (as the Council on Medical Education and Hospitals has always welcomed) the cooperation of other educational units. It is my belief that measuring achievements rather than time will enable us to select men and women more wisely and also organize our educational divisions so flexibly that the gifted student may proceed more quickly through his formal education; and it is my hope that the new efforts to measure personality will lead to effective character education and that descriptions of personality will aid in the choice of the best men and women for the service of mankind in the ministry, the administration of justice, and the healing of the sick and maintenance of health. I am sure that the schools and colleges can more effectively cooperate with the medical profession in these ways if the profession will teach them what a physician does and is in the terms of the day and in the experience of the leaders of medicine in our country. Specialization and cooperation is my plea. Again I quote the distinguished editor of the *Lancet*: "On both sides of the Atlantic a simple chant may be heard to the effect that the more we get together the happier we shall be." That goes for all divisions of education on each side of the Atlantic, as well as for medicine and the other divisions on both sides.

DAVID ALLAN ROBERTSON,
American Council on Education

PH.D.: ITS DENOTATION AND ITS CONNOTATION.¹—I can readily concur in the opinion that our young scholars are too often under-educated; about their being overtrained I am not so sure. It is charged that too many of them ply their special knowledge like tradesmen or artisans. But isn't that just because they know too little outside of their particular trade? A handicraft remains mechanical for the mechanic; for the superior craftsman it turns into art and science. Hence, the vast inequality between the diggers in scientific fields, it matters not whether they dig for the roots of plants or the roots of numbers or the roots of words. Soon we shall have to reach a decision whether the Ph.D. stamps a person as belonging to the élite, or merely hallmarks him as a Robot of Learning with a dispensation from the common duties of higher civilization.

Having encountered some difficulty about the exact meaning of "doctor" and of "philosophy," we need not anticipate less embarrassment from the appellation in the whole than in its parts. But here ordinary usage comes to our aid. With due allowance made for a difference in the standards, the label of Doctor of Philosophy advertises a set of definable professional assets that are deemed essential for most higher educational posts. They are: first, thorough mastery of one section of a special field of knowledge; second, fair familiarity with the special field as a whole; third, intelligent, in some respects intimate, acquaintance with adjacent areas; fourth, ability to cultivate science in original and fruitful ways. It is now a universal practice to test out all these aptitudes by at least one severe examination before a body of experts and by the submission of a finished piece of scientific literature to a group of competent critics. There are other, auxiliary, requirements which are judged in various other ways.

In all conscience, this is asking good measure pressed down and running over. While it is now sought in some quarters to reduce the requirements somewhat, this is not done primarily with the idea of lightening the work but in order to concentrate it still further. As a matter of fact, the accentuation upon the prescribed complex of knowledge has already undergone a noticeable shift, so that usually the main emphasis is now laid on the first and the last of the requirements as I stated them, encouraging a still narrower specialization. In consequence, a letting-down of those regulations looking to greater breadth of scholarship is observable. For instance, the adjustment

¹ Address at the Thirtieth Annual Conference of the Association of American Universities

between the major and minor fields of study is more slack than formerly. Frequently the "major" and the "minor" are picked from the same field, say botany, while, on the other hand, in not a few cases the combinations seem haphazard and incompatible, as for example, in agricultural chemistry and education. That, so far, the effect of these changes has been happy for scholarship is one of the theses of educational modernism which I for one would dispute.

Now if those professional assets are thought to distinguish the *homo sapiens promotus* or *doctoratus* from the plain citizen, it will be a fair question to ask to what extent they raise the individual and dignify the class. For I maintain, undeterred by the watchdogs of democracy in our own fold, that upon the dignification of our profession in the social order depends in large measure the welfare of science and education, and ulteriorly the general state of culture.

From such a consideration spring further postulates, more refractory to formulation than the fixed provisions. It is these less palpable properties expected of the Ph.D. to which my heading alludes as its connotations. All of them might of course be epitomized in one categorical injunction, to wit: A Doctor of Philosophy should be in every way a fully civilized and highly cultivated member of society. To me this means: a person of good manners, good habits, and good taste; further, a person of tolerant and discriminating ideas, broadly educated and well read, interested intellectually, if not actively, in public affairs; not afraid to express, nay to volunteer, his opinion, and, altogether, not shirking the responsibilities of leadership. In fine, he should distinctly feel himself a member of that minority who are capable of consistent attitudes and well-considered actions in matters of the general concern. He should, withal, not be insensitive to beauty in forms of reality nor indifferent to its manifestations in the arts. As for his special fitness in scholarship, the Ph.D. should be a person whose productiveness has not died in child-bed, as it were, from exhaustion over his "inaugural dissertation." He must keep in live touch with his science, follow its growth, retain the capacity and courage to change his views under the light of new knowledge. The doctorate, as such, could not under any circumstances furnish a guaranty of scientific fecundity. It could be reasonably hoped, however, that out of any highly schooled mass a satisfactory proportion of individuals would rise to professional eminence. . . .

Conformity to the once greatly admired type of gentleman and scholar seems no longer sufficient for academic success. Our young scholars are gradually approximating, through atmospheric pressure and protective coloration, another, much less exclusive type. When Mme. de Staël suggested the classification of all Germans into lieutenants of hussars and doctors of philosophy she clearly went too far. Were she to visit these prosperous shores she might be sorely tempted to divide us, perhaps with less exaggeration, into promoters, salesmen, and advertisers, representing fairly the three parts of our *Gallia omnis*—the national sum total of "gall." The modern professorial type would most likely be left unmentioned. For it will be admitted that the rôle played by the Ph.D. man in the public councils is almost negligible. One would like to think that if the attributes of wisdom, energy, and public spirit were more definitely associated with that title in the popular mind, its holders would not be so excessively rare in the higher spheres of public life. . . .

I have refrained from cataloguing pedagogy separately among my Ph.D. *desiderata* because to me the qualities adduced are necessarily the "makings" of a good teacher. I am fully aware that educationists as a class would not concur in such a belief. They want to make the study of education obligatory for all Ph.D. candidates, and would even introduce distinctive method courses and practice teaching in every specialty, on the ground that graduate schools provide teachers for high schools and colleges. It is an argument which in my belief bespeaks just as forcefully the need of a liberal education. It is therefore safe to predict that the movement will not meet with much sympathy from graduate faculties until the normal trend of educationism swings back from its present pragmatical orbit into philosophic and historical paths. Most so-called "method courses" are of too elementary nature for college graduates, and their contentual value for that grade of students is dubious, especially since a great many have already acquired from twelve to eighteen credits in education during their college years for their teacher's certificate.

I do share in the conviction of the educationists that the Ph.D. who wants to make his living should be able to teach. (In general, I cannot wax enthusiastic over the idea of research professorships, for I perceive no condign reward of scientific eminence in a total relief from teaching.) From a prospective teacher some *facultas docendi* is properly to be expected. So, while I am not in favor of

taking up the student's time with the manner of courses proposed by the pedagogues and should hate to see teaching ability "standardized," I should favor its being tested and certified whenever this becomes possible through improved psychological methods. . . .

Just now, when education has become more standardized than it ever was before, there is endless cant about the mission of the college to provide the world with leaders. There are today in our midst many undeveloped strong men—men who might, with proper training, have been leaders of others. Naturally it is the men dealing with the most advanced pupils to whom we have to look for "education in leadership." Why is it that so many college teachers either lack or successfully conceal in themselves the quality of leadership which they are expected to inculcate in others? Can the hobbled march in the van, or the blind lead the blind? Drillmasters cannot train generals. The task of creating "leaders" belongs to the *viri clari*, the *homines humaniores*, the true "men of light and leading," moral courage, and intellectual honesty. Only a "liberal" education can produce such persons in numbers.

There springs up inevitably in this connection that great aesthetic problem of our time and people, how to enhance the popular appreciation of the beautiful. It is one of our greatest necessities, though—alas!—it would be preposterous to describe it as a "much-felt want." To my thinking we should take this problem much more seriously than we are doing. *Ars gaudium severum*. The subordination and the mechanization of art—especially literature—in the schools and colleges is almost as calamitous as its neglect. The danger can only be averted if, in the evaluation of teachers, we put some premium on aesthetic capacity. Altogether, a wider intellectual horizon than so many teachers possess is a necessity for vital teaching. . . .

My plea for a liberal education of our Ph.D.'s is further based on their function as scientists, both in the "interpretive" and "creative" meaning. Again assuming that with rare exceptions the Ph.D. will want to teach, or have to, it will be agreed that the greatest educational good that can result from the authentic interpretation of science is the inspiration of youth with the ideals of science and with a zeal for research. "All elementary students," says a well-known scientist, "should be occasionally led to the mountain top, that they might see all the beauty and supreme importance of scientific endeavor." To him, "interpretation" means more than explaining the facts. A true interpretation of science brings to light how sci-

tific discovery affects our philosophy and our mental life as a whole—as well as our economic adjustments and physical well-being. . . .

Literature conceived in the spirit of highest scientific ideals, yet written for the ken of lay readers, is far too scanty with us. I am not thinking of "outlines" of this, that, or the other, but writings like *The New Reformation*, by Michael Pupin; *Stars and Atoms*, by Arthur S. Eddington; *Possible Worlds*, by J. B. S. Haldane; or *The Bible of Nature*, by J. Arthur Thomson; or from other fields and other days: *Cosmic Philosophy*, by John Fiske; *Studies in Language*, by W. D. Whitney; or *Chips from a German Workshop*, by F. Max Müller. . . .

I venture to differ diametrically from the expressed opinion of certain educational radicals that the gates of the graduate school should be flung wide to all comers, to let them go as far as they can on their preparation. I favor, on the contrary, some reasonable bars and hurdles at the entrance. Ph.D. should stand for the sort of scholarship for which the foundations can only be laid by a well-rounded secondary and tertiary schooling. . . .

This brings us to the crucial question—Which are the subjects to be set up as the proper prerequisites for admission? No one list will ever fit in with our variety of educational creeds. For my part, I would venture to list these: The mother-tongue, together with native and general literature; history, together with physical and political geography; foreign language; physical science. The fundamental value of these disciplines is pretty generally admitted. It is a widespread belief that we owe to them the best part of our common intellectual heritage, and that all strata of society need them for further growth in civilization. It were to be wished that to each of these subjects the prospective graduate student should have adhered for at least two years in college. However, neither these nor any other subjects deserve preference in so far as they deal merely with names, dates, tables, vocabularies, paradigms, memorized definitions, and theorems. The ultimate aim of all scholastic "prerequisites" should be to enable the student to integrate new mental experience with previous acquisitions. . . .

Even if the object of the work for Ph.D. were chiefly utility, the critical and creative abilities ought to be fostered. Those who advocate the subordination of every other educational consideration to the test of utility are dangerous advisers. It would be well for

the more enlightened to articulate their protest before it is too late. It is not to be expected that the business world will spontaneously realize the advantages of a long, laborious, and costly course of study not aimed to yield at once profitable results. It requires a more philosophic grasp of the situation to foresee the benefits accruing from the broader educational scheme. After all, intelligence is more fundamental than training, and purpose more fundamental than technique. Such philosophic consideration—from whom is it to be expected if not from those who educate our Doctors of Philosophy?

OTTO HELLER, Washington University

VICE-PRESIDENTS.¹—I want to make the following suggestion particularly to the great institutions that have 10,000 students. I suggest that when you go to a man to make him president of one of these great institutions you should say to him, "We will appoint one or two vice-presidents of your choosing, almost coordinate with you, at salaries that are rather large; you select your men, and bring them with you." I have a friend who is president of a life insurance company and when he was asked to come there as president of that company he said he would come on condition that he bring a vice-president with him who would get approximately the same salary and would be able to act for him in every way. These two men are working ably in that company and doing a great administrative job. It is impossible for one man to do all that the president of a great university should do. I think you members of Governing Boards have got to face this in some way, and the best suggestion that I can make is that when you invite a man to become president of a great university you ought to say to him, "Go out and get a man of your own choosing as vice-president who will do what you cannot do, and then come here as president and see what you can do jointly."

RAYMOND M. HUGHES, Iowa State College

THE SCOPE AND SPHERE OF A UNIVERSITY.²—I feel that I could give a much clearer treatment of this subject if I knew the meaning of the word "university," but I do not know what it means myself, nor have I been able to get definite information from any of my colleagues. . . .

¹ Extract from address to the Association of Governing Boards of State Universities and Allied Institutions

² Address at the Thirtieth Annual Conference of the Association of American Universities

In Scotland there was a time when, in some of the universities at least, they gave no degrees. The Scotch always did have good ideas about things, and in this omission of the degree, it is easy to see their opinion that a university was a place for the acquisition and extension of knowledge, and that the conferring of a permanent alphabetical decoration on the fitful data furnished by a few years' residence would be a wee bit risky. Possibly, too, they were afraid that the conferring of the degree would give students the impression that their education was complete and that they could avoid all cerebral activity for the rest of their lives. In other words, they may have anticipated a result such as some universities in this country have experienced to their sorrow in connection with the conferring of the grade *summa cum laude* on candidates for the Ph.D. These institutions have given up all grades for the Ph.D. now, but they did so only after it became quite apparent that the granting of the *summa* grade tended to result in complete mental atrophy and intellectual sterility. To the ordinary weak and erring mortal the winning of a *summa* meant that he had arrived at the topmost peak of academic accomplishment. So, why should he put a kink in his medulla oblongata by pursuing his research? . . .

In the United States, the connotation of the term "university" is of amazing elasticity. It is applied to institutions that give higher degrees and to institutions not giving them; to institutions whose Bachelor's degree represents an academic aspiration rather than an educational accomplishment; to institutions comprising a complete or nearly complete list of professional schools, and to others having nothing but an arts and science curriculum. In some of the smaller so-called universities of the country (especially in the less developed regions) there is a pathetic element in the use of this high-sounding word, for one sees that those who gave it this name bravely took the position that unless they themselves gave full credit to their cultural potentialities, no one else would. Quite different from these, most of whom are misguided rather than dishonest, are those who exploit the word for commercial purposes, either in institutions where there is some pretense of oral instruction, or in so-called "correspondence schools," some of which far from living up to the ideals of a university in the real sense of the term, fail to maintain even such standards as would be acceptable in an institution of collegiate rank.

In view of this range of usage, one may reasonably be in doubt as to the precise meaning of the word "university." But, by disre-

garding the obvious abuse of it and by analyzing it as it appears in its best and most substantial exemplifications, one may reach some idea of what it does or at least ought to mean. In its most legitimate application it seems to me to connote two ideas: first, the higher form of learning, such as is most closely associated with research work; and, second, a range of activity that covers at least a fair number of the recognized fields of study: arts, science, law, medicine, divinity, etc.

To put it briefly, there is both a qualitative and quantitative element in the word's significance. On the one hand, it stands opposed to the college, both qualitatively and quantitatively, though its preliminary years may overlap the last two years of college; while, on the other hand, it differs from the school (using that word in its higher significance) in its wider range. Please notice that though, in the fulness of my hope and the brightness of my vision, I have used the present tense in the description of the university that I have given above, I am not thinking of any existent university, but only of a university as it ought to be. The French and German universities come nearer the idea than any of those in England or on this continent, though the Johns Hopkins University has announced, and is beginning to put into operation, a plan that will be a materialization of the ideal I have just described. . . .

The most casual scrutiny of the largest, oldest, and most famous of our institutions, whether in the East or in the West, makes it perfectly plain that a very large part of the teaching done by the staff or the work done by the students is not, in any sense of the term as defined above, university work. To be specific, our universities in general comprise four years of college and three years of graduate or professional work. There are, of course, variations in the time spent by students in universities, but the variations are not sufficiently great to make much difference.

Now, of the four college years the first two constitute what is today pretty generally called the "junior college." And this junior college has no place in a university. It simply does not belong. It is part of the secondary-school process and should be treated accordingly. It forms the completion of the student's general education; it rounds out his equipment and brings him to that stage in his education where he can begin specialization in some real sense of the term. . . . Cultural subjects, like language and literature, have suffered to a certain extent in the secondary schools. They

have not suffered as much as is generally believed, but there has been a tendency to crowd them. Yet this serves only as an explanation of the presence of this elementary material in colleges, and so in universities that include colleges; it is not in any sense a justification. . . .

If the colleges and universities of the country had taken a firm stand in the matter of elementary language a generation ago, we should not find ourselves in the position in which we are today. The willingness of the higher institutions to undertake the baby language courses has confirmed the schools in their policy of omitting them from their curriculum.

The other method of dealing with the situation which offers a hope of saving the standards of the university is that of including them in the first two years of college, but separating these years from the university proper. This seems to me to be the more practical method. It is certainly the more feasible plan for the western institutions, for in the West, secondary schools where training in these subjects might be obtained are less numerous than in the East, and the tutoring or coaching system has never been well organized. Whether this junior college should be connected with the high school, or whether it should be a separate institution, is a point on which I have no strong opinion. . . .

In a word, my position is that the university—having that qualitative standard of higher work which I have postulated—has nothing whatever to do with elementary work either in arts or science. It is concerned only with advanced work and should flatly decline to offer the other. Only students who have mastered the elements of all the subjects pertaining to a general education should be regarded as eligible for admittance to a university.

This separate organization of the junior college—either in connection with the high school or on a campus of its own—would be highly beneficial to the university proper in many ways. Among other things it would enable us to sift the students proceeding to degrees more thoroughly than we do now. We could make the end of the junior college course an occasion for testing the qualifications of the students. The system of testing—I need hardly say to this gathering—would not be the arithmetical method of adding up the number of courses they have taken with apparently respectable grades, but some kind of a test—a comprehensive examination or a series of problems to be worked out in library or laboratory—that would demonstrate to what extent they had acquired mastery of their

subject. For those who showed they had not attained proficiency, we could make this a point of departure. . . . If the junior college served no other purpose than that of getting rid of low-grade students, its existence would be more than justified. The extent to which the non-studious students are impeding the work of our large institutions is appalling. . . .

The removal of the junior college from the main quadrangle of a university would be helpful in another way: It would prevent the diversion of university professors' energies to elementary teaching. I know that the senior professors who participate in the instruction of the first two years of college are a minority, but none the less the number of those who do is by no means negligible, and from the point of view of the university their labors represent an almost complete loss. They are spending on work that in the vast majority of cases could be done better by some young college instructor, time and effort that ought to be applied to the training of graduate students or to the prosecution of their own research. It is a fortunate thing that the professors who show this fatal tendency toward the teaching of junior students are not, for the most part, the best research workers. Nevertheless, some of them are excellent in research and it is in their case that the loss occurs. The immediate cause of their weakness for the academic child's play of teaching Freshmen is not always easy to determine. . . . The point I am trying to make is that as long as the junior college is on the same campus as the rest of the institution, so long, you may be sure, will some members of the university staff fritter away their time in inconsequential vagaries in junior teaching.

There is still another reason for the separation of the junior college, which, although it is not yet a matter of major importance, bids fair to become so at no distant date. With the steady improvement in elementary and secondary schools, the day is coming soon when students will reach the present college matriculation stage of academic development at the age of fifteen or sixteen, instead of seventeen or eighteen. . . . At present, the average Freshman has reached that degree of adolescence that makes it possible for him to adjust himself to the social atmosphere of a big institution. Most Freshmen have nothing to spare in this respect, but they can just make it; they have passed certain physiological crises and are beginning to grow up. But obviously what is true of the boys and girls of seventeen or eighteen, the Freshmen of today, will not hold for the

Freshmen of tomorrow, who will be only fifteen or sixteen. They will be pre-adolescents, and not merely the best place, but in my opinion the only place, for them is a separate junior college, with its smaller number of students and its stricter supervision of studies, manners, and morals. . . .

Having thus eliminated the junior college, we now have a fairer prospect of a university in the real sense of the term. Students entering this institution would devote the first year (*i. e.*, the present junior year of college) to the study of the fundamental subjects that form the basis of the specialty to which they plan to give their attention in the following year (*i. e.*, the present senior college year) and in the two or three years that follow—the present graduate school years. In this first year also, they would master such tool-courses as their specialty is sure to demand. I have in mind particularly the necessity of a good reading knowledge of French and German. . . . By the second year of the university—*i. e.*, the present fourth year of college—the students (after this reorganization which I am proposing has had time to produce its results) would be in a position to undertake work of graduate quality, and in the course of the two or three following years would become scholars and investigators of much wider competence than the present generation of graduate students. . . .

Does it not seem amazing that a student should, even in part of his courses, work toward a Master's degree or a Doctor's degree under the same system to which he was subjected when he first emerged from the elementary school? . . . And so thousands of students are graduating from colleges and universities every year through the piling up of credits and the records of recitation and examination performances without having acquired anything that even faintly resembles an education, and without having obtained mastery of a single subject.

Educated men—*i. e.*, men whose minds react correctly to their environment—are almost as often found among those who have not been to college as among those who have. Think what a stupendous loss in money, time, and effort is now involved in our educational system, honeycombed as it is by vicious method from top to bottom. The waste is appalling, but there is no general recognition of it. . . .

As it seems to me, the following measures are essential:

1. A steady reduction in the number of informational courses

from the first year of the university—*i. e.*, the present third year of college—through the subsequent years.

2. An increase in the number of courses calling for constructive independent work on the part of the students.

3. A greater liberality in excusing from class attendance, either in whole or in part, students who have already done a considerable amount of work in the subject, and who could with greater profit to themselves be assigned some problem in the field.

4. An increase in the number of informal courses, in which the instructor meets the class only occasionally, either for the purpose of delivering one or two orientation lectures, or to give the students an opportunity to consult him on difficulties they have encountered in investigating the problems assigned to them.

5. The abolition of all course examinations, and the substitution of comprehensive examinations at the end of the first and second—*i. e.*, the present third and fourth college-years, and also for the Master's degree and for the Doctor's degree.

6. The organization of research institutes within the university and the appointment of professors who will have little or no class teaching, and who will devote themselves to the direction of the work on the projects of their institute.

7. The publication of all Ph.D. theses.

8. A survey of the professional schools, with a view to the establishment of the same standards of research and scholarship as those postulated for the schools of art, literature, and science. . . .

I feel very strongly that anything in the direction of the reduction of the number of formal courses taken by students is a great gain. It is bound to develop that independence in study that so many of our students now lack. Both our colleges and our graduate schools are course-ridden, with the two-fold result of hindering the student's development and causing a severe strain on the resources of the university.

Of equal importance is the question of abolishing course grades. I know that many will say at once that in an institution with large numbers of students we must keep books, and that the system of grades is the best way of doing it. But in spite of this the general effect is bad. The grades in so many cases fail entirely to indicate the degree of proficiency attained by the student. . . .

In regard to the publication of theses, I am one of those who believe that only those institutions who insist on complete publication

of the doctoral theses have consistently maintained the faith. . . . Quite apart from the value of the published dissertation as an evidence of the quality of the young doctor's work, the publication requirement is the best check that an institution can have on the standards of work maintained by the different departments.

In my reference to the desirability of reorganizing some of the professional schools along the lines of the graduate school of arts, literature, and science I had in mind especially the law schools. It seems to me that the law schools, even in some of our largest institutions, still emphasize, to an extraordinary degree, the purely vocational side of training. The schools of divinity and the schools of medicine have long since included in their curricula programs of pure research along the same lines as those of the graduate schools of arts, literature, and science; but the law schools have lagged far behind. One might almost say that most law schools today, in their emphasis on the strictly vocational aspect of their work, are in much the same position as the medical schools were a generation ago. It is only in comparatively recent years that there has been any movement toward including in the law-school course investigative work in the fundamental principles of law, quite apart from any consideration of the usefulness of such courses to practicing lawyers. I have reference here to the research work being done at Harvard toward the S.J.D. and that carried on at Chicago and elsewhere for the S.J.D., a degree that in the field of law corresponds to the Ph.D. in arts and science. . . .

GORDON J. LAING, University of Chicago

LOCAL AND CHAPTER NOTES

BROWN UNIVERSITY, STUDENT LOANS.—The University undertakes to provide loans to deserving students from funds made available through cooperative arrangement with the Rhode Island Hospital Trust Company. The bank will loan to students recommended by the Committee on Loans of Brown University upon the presentation of formal authorizations from the committee. . . . These loans create a debtor-creditor relationship between the student and the bank. The University recognizes and assumes no responsibility to the student to meet his obligations when they mature; it undertakes simply to recommend the wisest utilization of the funds made available. The Committee is authorized to loan an amount not to exceed in the aggregate \$50,000 in any one year and not to exceed \$800 to any one student during his four years at the University. The Student Loan System was adopted in June, 1926. A report recently published by the University says:

"Brown's experience has been short, but the results of the experiment are thus far encouraging, and the University feels warranted in presenting its plan to the public. . . .

In view of the fact that student loans are available to needy students whose academic work is somewhat below scholarship rank, the Student Loan System can be, and has been, made an influential factor in the improvement of the academic work of a large number of students. This results not only from the fact that, through student loans, student borrowers are given relief from excessive outside work but also from the fact that the achievement and maintenance of a certain academic standing is a condition to favorable action upon an application for a loan. . . .

"Moreover, the Secretary of the Committee believes that the Student Loan System has already demonstrated that, in and of itself, it has real educational possibilities. Through the Student Loan System and the introduction to the standards of business practice and business obligation which it affords, our student borrowers are being given a most valuable training in the assumption of responsibility, the budgeting of expenditures, the building up of credit relationships, and the meeting of obligations in accordance with promises made.

UNIVERSITY OF BUFFALO, HONORS WORK IN SCHOOL AND COLLEGE.—The success of the honors plan at the University of Buffalo will logically lead to important extensions which can be only tentatively touched on here inasmuch as no concrete beginning has yet been made. . . . The student who comes with a brilliant school record deserves the interest of the college long before he knocks at its doors. It is the continuity of the educational process which is at stake. If that student knows two or three years in advance that he will apply for admission to X college, the college and the school should assume common guidance over his development. To be as concrete as is possible before the plan has received any trial, the Buffalo project aims at selecting a limited number of upper-level students in the junior year of their high school, so helping them in their selection of the remainder of their school program and also giving them such additional training both during their school course and especially during both summers, that they may enter college with a considerable amount of their junior college training completed. Such students would be admitted to the senior division of the college entirely on the basis of total accomplishment and ability rather than fulfilment of formal course requirements; the average of these students would perhaps spend one instead of two years in the junior division. They would then be treated in the senior college as honor students. At the end of that period they would be advised to go for the most part, either into professional training or graduate academic work on the basis of their interests and abilities. Such students as elected the latter would be started on the field of investigation in which their graduate work would be conducted, before the completion of their undergraduate period, there being here as little break in continuity as possible, since the first year of graduate study would be made the ultimate objective rather than the completion of the undergraduate period.

Such a scheme as this is perhaps adapted only to an institution situated in a large city where it can have frequent contact with the schools which would furnish it its first material. One or more liaison officers would be appointed from the college faculty to consult on school programs from the university point of view. Obviously, tactfulness on their part would be the prime requisite. Such an officer, whether he be called a professor of education, or by some more administrative title, should previously have had secondary, as well as college experience. It should take practically all his time, and

as the work grows others would be detailed. It would thus be expensive for the university.

JULIAN PARK, *School and Society*

UNIVERSITY OF CHICAGO, *Departmental Counselors*.¹—Formerly the corps of Deans in the Colleges exercised a supervision over the educational programs of all students. They now confine their efforts to the students in the first two years—the Junior College, while every Senior College student is turned over for guidance to a departmental Counselor, that is to say, a member of the faculty of the department in which he is concentrating. This change has two advantages. It reduces the number of students in charge of the Deans, thus enabling them to do their work more thoroughly, and it places the Senior College students under the guidance of men more familiar with the field in which they are chiefly interested.

Another improvement was the careful distribution of Junior College students to the Deans according to their academic or vocational interests. Thus, one Dean is now responsible for the guidance of undergraduates who expect to enter the Law School, another of pre-medical students, still another of students who are looking forward to graduate work in the natural sciences, and so on. An effort is made to select as Deans men who are qualified to guide students in a particular direction, and they are expected to familiarize themselves further with the field assigned to them. In this connection, an effort is also made to assure greater efficiency by retaining the Deans in office for a period of at least three years.

FREDERIC WOODWARD

The Social Orientation of Research.²—The social sciences are no longer merely hortatory or descriptive at the University of Chicago. The Local Community Research fostered now for five years at the University can tell a story of research upon the city itself as a laboratory that will reassure all of us and enhance our scientific reputation abroad.

In guidance for regional planning, in welfare and housing and crime surveys and diagnoses, in studying family disorganization and reorganization, in prediction of population trends, in diagnosing

¹ Extract from report of the Acting President

² Extract from address at the Trustees' dinner to the Faculties

and treating political indifference, in measuring public opinion, in evaluating the morale of city employees, in criticizing municipal reporting, in cataloguing the repositories of social data, and in becoming ourselves an intelligent and well-organized clearing house for needed knowledge on every phase of the city's life and growth—in these and many, many other ways, we are becoming eyes to the city that for lack of vision has sprawled geographically and reeled spiritually. What we have achieved in five years under adverse circumstances of novelty and meager equipment cannot well but be promissory of still better results under bettering circumstances. Already the city is turning to us to match our resources dollar for dollar in studying social welfare, organized crime, and now the police force. Moreover, this habit of turning to us for research guidance and execution already outreaches the city of Chicago, as witness the cooperation with us of the association of community chests and councils in bringing order out of national chaos in the registration of social statistics and the recent decision of the city managers' association to build their institute of research under our aegis. Within the year there will be finished and dedicated to the use of our several social research enterprises the first building perhaps in the world completely equipped for social research, inhabited exclusively by research workers, and devoted entirely to a mastery and control of social processes as scientific data.

THOMAS V. SMITH

COLUMBIA UNIVERSITY, 175TH ANNIVERSARY.—The University will begin the celebration of its 175th anniversary on October 25 with a series of historical exhibitions, culminating on Oct. 31, with an outdoor convocation at which honorary degrees will be conferred. Scholars from all parts of the United States and many foreign countries are expected to attend.

CORNELL UNIVERSITY, READING PERIOD.—The Faculty has legislated that "for the academic year 1928-29 formal instruction (including class exercises and laboratories) may be discontinued one week before term-examinations begin; it being understood that members of the Faculty will be available for consultation at the regular hours designated for class instruction and that an examination or equivalent exercise shall be required of all students during the examination period."

HARVARD UNIVERSITY, COUNCIL ON HISPANO-AMERICAN STUDIES.—The Harvard Council on Hispano-American Studies has recently been established. It includes Professor Ford of Harvard University, Director of the Council, Professors Whittem and Rivera of Harvard, Waxman of Boston University, Torres-Rioseco of the University of California, Doyle of George Washington University, Leavitt of the University of North Carolina and Coester of Stanford University. The Council is now proceeding to prepare a complete bibliography of the literature of the New World in both Spanish and Portuguese. *Belles lettres* will be the prime consideration and the fine arts will receive attention; it is the intention to include only the absolutely necessary items in the domain of political and economic history. The hope is to make a complete record of printed books and articles and of manuscripts that represents the purely literary output of Hispanic America since the early days of discovery and colonization. The Council hopes that all persons in this country interested in the history of Hispano-American culture will lend their support by contributing to it all items of information in their control and by calling the purposes of the Council to the attention of useful agencies in Hispanic America.

UNIVERSITY OF ILLINOIS, NEW CURRICULUM.—The board of trustees has approved a new curriculum of the College of Liberal Arts and Sciences. . . . The minimum requirements were arranged to insure:

- (a) A reasonable facility with language characteristic of the educated man or woman, including the ability to write the mother tongue and to read at least one foreign language, ancient or modern.
- (b) A diversified background, to be completed before the senior year, of elementary instruction in the traditional fields of the arts (including the social or humane sciences) and the sciences.
- (c) A concentration of interest after the freshman year in some one selected subject buttressed by work in one or two closely allied fields of learning.
- (d) A growth in maturity by requiring that during the last two years a certain minimum of credit be obtained in courses not open to freshmen or sophomores.
- (e) A liberal opportunity to select preprofessional courses offered by other colleges and schools of the university.

The requirement of a diversified background of elementary studies replaces the existing set of "group" requirements which arose as an aftermath of the period of free electives. These "groups" were of

the greatest efficacy in promoting faculty debate, but from a practical standpoint presented serious difficulties in arranging the program of the more mature students, especially those transferring from other institutions. Accordingly they are abandoned and instead the student is required to present at least fifteen hours selected from the offerings of three different departments on the arts side of the college and a similar number selected from at least three different departments on the science side. There is a further requirement that one of the courses included in the arts group be in English or foreign literature or in the history of philosophy. This, it is hoped, will result in some acquaintance with first-rate authors and with the university library. Similarly on the science side, one of the courses offered must include at least four clock hours per week in the laboratory to insure some familiarity with natural phenomena and the scientific method.

WALDO SHUMWAY, *School and Society*

JOHNS HOPKINS UNIVERSITY, CONCENTRATION.—At the present time what we are doing is to offer the earnest and capable student, at the end of his first two years in college, the opportunity to specialize in some branch of knowledge in which he is interested, and have with this end in view, roughly speaking, consolidated the last two years of college with our former graduate department. We have not had enough experience to enable us to reach a conclusion of any very great value with regard to the success of this plan. In the first year that the plan went into operation, nineteen students, three of whom came from other institutions, entered under the new plan. Three of the nineteen were subsequently advised to drop the work, so that sixteen were in attendance at the end of the year. Fourteen of these returned last year. During the past year, thirty-two students with two years' preparation entered under the new plan. Six came from outside institutions. Two of the thirty-two were subsequently advised to drop the work, so that at the end of the year we had forty-four new-plan students. This year, 1928-29, is the third year during which the plan has been in operation. At the beginning of this year thirty-three students entered under the new plan, nine of whom came from other institutions. There are, therefore, at the present time, about seventy students who entered under the new plan, and it is to be noticed that the number coming from other institutions is slowly increasing.

Another fact with regard to the operation of the new plan is to be noticed. Some of the students who enter drop out either voluntarily or upon the advice of the instructor with whom they are studying. It is evidently therefore the case that the new plan will not suit all students who desire to enter under it. Some prefer the curriculum which is intended to give the so-called "liberal education." A few would seem to be unable to do the work. But generally the students who enter under the new plan stay with us, and the testimony of the faculty is that this large majority are doing well.

FRANK J. GOODNOW, *School and Society*

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, SCIENCE AND TECHNOLOGY.¹—The importance of the best science instruction in our undergraduate work, of providing advanced courses as a foundation for graduate work in the fields of technology cannot be overestimated, but the provision for graduate work in science and the recognition of the value of original investigations, especially in the fields of physics and chemistry, are most vital.

There never was a greater demand for research men, or as few leaders available in the fields of science, as at the present time. Industry is calling for many times the output. Educational institutions are severely handicapped by the exceedingly limited number of such men available.

Research in the fields of science and technology has become a profession and research men are trained in research laboratories. Many young men who have a distinct taste for technical work often prove to be the best for research work in the fields of science.

The Institute should be a leader in the production of the fundamental data in the fields of science and technology. Many of the most important scientific problems arise in engineering fields, in fact, the engineer is calling for data of the most difficult kind to produce in the fields of so-called pure science. Many of the problems in pure science, especially in the experimental field, call for the design, construction, and operation of heavy equipment, as for example in the fields of refrigeration, high temperature, high pressure, and their applications in chemical research.

It is no longer possible to distinguish between pure and applied science on the basis of practical applications. An investigation to ascertain the best material for a given purpose, for example, as an

¹ Extract from report of the President

insulator in refrigeration or heating, might well be termed a problem in applied science, but a determination of the laws of conduction and other heat constants, needed in heat engineering, are problems in the domain of what has been called pure science; a great many examples of this kind could be given where the engineer or manufacturer calls for fundamental data in physics and chemistry. The fact that the need is foreseen is no reason for classing the work as applied science. They are as much problems in the field of pure science as they would be had some investigator conceived and conducted a research to find out these laws without knowing their applications. Industries are asking for information as to the structure of matter, knowing full well that when this question is settled it will have an important bearing upon problems of industry.

SAMUEL WESLEY STRATTON

MEMBERSHIP MEMBERS ELECTED

The Committee on Admission announces the election of three hundred and ninety-one active and one hundred and fifty-nine junior members, as follows:

Allegheny College, Doris H. Potter; **Antioch College**, Rudolph Broda, Austin M. Patterson; **University of Arizona**, Albert Bachmann, A. F. Kinnison; **University of Arkansas**, Clement L. Benson, Orville C. Miller; **Battle Creek College**, Gustave L. Michaud, Helen S. Mitchell, O. W. Mosher, Jr., W. E. Payne, Luther S. West, John Xan; **Berea College**, John S. Bangson, Julian H. Capps, Albert J. Chidester, J. W. Hatcher, Charles S. Price, Rexford C. Quimby, Elizabeth Richardson, Ernest J. Weekes, Mary E. Welsh, Albert G. Weidler; **Bethany College**, Anna R. Bourne, Ruth Schmalhausen, Bernal R. Weimer; **Boston University**, George Q. Knyper, Edward Albert Post; **Brown University**, Egbert K. Bacon, Charles A. Baylis, Jay B. Botsford, Leonard Carmichael, Charles A. Glover; **Bryn Mawr College**, Natalie N. Gifford; **Butler University**, Gladys L. Banes, Stanley A. Cain, Amos B. Carlile, R. W. Keahey, Janet M. Macdonald, Karl S. Means, Albert Mock, S. E. Vittorio Moncada, Florence I. Morrison, C. Mervin Palmer, Nathan E. Pearson, Wallace M. Perkins, Tolbert F. Reavis, Esther A. Renfrew, Irvin T. Shultz, Claude Sifritt, Russell G. Weber; **University of California (Berkeley)**, W. H. Chandler, Bruce L. Clark, Cecil L. Hughes, Wm. D. Matthew, K. F. Meyer, Arturo Torres-Rioseco; **Carnegie Institute of Technology**, Cecil M. Johnson; **Carroll College**, Kathleen V. Scudder; **Case School of Applied Science**, Chas. W. Thomas, Karl O. Thompson, P. J. Zimmers; **University of Cincinnati**, Earl Otto; **Coe College**, John M. Henry; **University of Colorado**, J. W. Cohen, J. A. Hunter, Walter K. Nelson, James G. Rogers; **Columbia University**, Arthur W. MacMahon, Henry H. L. Schulze; **Connecticut College**, Evelyn I. Fernald, Grace Ruth Luicks; **Cornell University**, Arthur J. Eames; **Dakota Wesleyan University**, Jesse J. Knox, Ray M. Lawless, Chester L. Rich; **University of Delaware**, Herbert L. Dozier; **De Pauw University**, Earl C. Bowman; **Duke University**, Warren C. Vosburgh; **Emory University**, Woolford B. Baker, Sterling G. Brinkley, C. B. Gosnell, Nolan A. Goodyear, J. Samuel Guy, Christian F. Hamff, James Hinton, Theodore H. Jack, Edgar H. Johnson, Ross H.

McLean, W. S. Nelms, J. B. Peebles, Osborn R. Quayle, Robert C. Rhodes, Douglas Rumble, Wyatt A. Smart, John M. Steadman, Jr., W. A. Stragier, Edward K. Turner, Ralph E. Wager, Goodrich C. White; **George Washington University**, Irene Cornwell, John A. Tillema; **Georgia State College for Women**, Vivian Stone; **Georgia School of Technology**, G. H. Boggs; **Goucher College**, Mary E. Andrews, Grace H. Beardsley; **Grinnell College**, Elias Blum, A. V. Johnston, Cecil F. Lavell, Lloyd E. Mount, Louisa Sargent, Milton Wittler; **Hanover College**, Frank Diehl; **Haverford College**, Austin K. Gray, William Rutzel, Edward D. Snyder; **Huron College**, Paul B. Bartlett; **Illinois Woman's College**, Ethel L. Bartlett, Elisabeth Nichols; **Indiana University**, William C. Cleveland, J. Wymond French, John L. Geiger, Thomas E. Nicholson, Walter E. Treanor, Lulu M. Westenhaver; **University of Iowa**, Estella M. Boot, Lee Foshay, Giles W. Gray, A. H. Heusinkveld, Oscar E. Johnson, Delia L. Larson, Lawrence W. Miller, Isabelle C. Redfield, E. B. Reuter, Christian A. Ruckmick, Ernest G. Schroeder, C. W. Thompson, Beth Wellman, Sherman M. Woodward, Dale Yoder; **Iowa State Teachers College**, Alison E. Aitchison, Hugh S. Buffum, Orin R. Clark, Thomas L. Cook, Walter M. Dunagan, E. O. Finkenbinder, B. J. Firkins, R. W. Getchell, E. W. Goetch, A. W. Hoyt, Mary B. Hunter, W. H. Kadesch, Nira M. Klise, C. W. Lantz, M. J. Nelson, Joseph B. Paul, Elmer L. Ritter, George C. Robinson, Winfield Scott, James A. Starrak, Selina M. Terry, Isabel Thomas, Marguerite Uttley, C. W. Wester, M. J. Wilcox; **Iowa State College**, Walter H. Wellhouse, Eleanor F. Warner; **Johns Hopkins University**, Paul Acquarone, Harold F. Pierce; **Judson College**, Laura Brant, C. Evangeline Farnham; **Kansas State Teachers College**, Walter Emch; **Lindenwood College**, Arden R. Johnson; **Louisiana University**, Theodore N. Farris, John E. Uhler; **Louisiana State Normal College**, Priscilla Butler Hussey; **University of Louisville**, Douglas H. Corley; **Marshall College**, L. E. VanderZalm; **University of Maryland**, Raymond C. Wiley; **Massachusetts Agricultural College**, George W. Alderman, A. B. Beaumont, H. N. Glick, Franc C. Moore; **Michigan State Normal College**, Bertha G. Buell, Paul E. Hubbell, A. N. Jorgensen, Elmer A. Lyman, H. Willard Reninger, Gerald D. Sanders; **University of Minnesota**, Alvin C. Eurich; **Mississippi State College for Women**, Lula R. Stevens, Helen T. Tomm; **University of Missouri**, Ruth W. Hughey, T. Luther Purdom; **Missouri State Teachers College**

(Central), James W. Graham; University of Montana, F. C. Scheuch; Mount Holyoke College, Ethel L. Anderton, Mary M. Clayton, Marie Litzinger, Erika Von Erhard-Siebold; University of Nebraska, Joseph E. A. Alexis, Winona M. Perry, Tracy A. Pierce; Nebraska Wesleyan University, Guy B. Dolson, Howard A. Durham; New York University, Arthur R. Barwick, Henry Brennecke, James H. English, E. Herman Hespelt; College of the City of New York, A. Gordon Melvin; University of North Carolina, James G. Evans, K. C. Frazer, Frank R. Garfield, T. F. Hickerson, William M. Mebane, G. T. Schwenning, H. D. Wolf; North Dakota Agricultural College, G. Nathan Reed, Conrad J. Sunde; Northwestern University, John R. Ball, Oliver S. Beltz, Vicente M. Diaz, James R. Hawkins, Ernest R. Mowrer, Sterling B. Talmage; Northwestern State Teachers College, T. C. Carter, G. R. Crissman, J. V. L. Morris, S. C. Percefull; Oberlin College, Carroll B. Malone, Frank C. McDonald; Ohio State University, P. G. Beck, John B. Brown, F. C. Landsittel, Marion T. Meyers, Wm. Allison Shimer, Edmund M. Spieker, R. S. Willcox, Willis Wissler; Oklahoma Agricultural and Mechanical College, Harry H. Anderson; University of Oklahoma, J. C. Colbert, John B. Ewing, Minnie M. Forbes, F. A. Melton, Clifford A. Merritt, Paul L. Voght; Park College, Mary R. Harrison, Ethel E. Lyon, Roy V. Magers, Robert A. Rogers, Ross A. Wells, H. L. Williams; University of Pennsylvania, Robert A. Brotemarkle, Lewis H. Kimmel, Merle M. Odgers, Frank G. Speck, Axel J. Uppvall; Pennsylvania State College, George W. Hartmann; University of Pittsburgh, J. Lincoln Cartledge, Stanton C. Crawford, Horace B. Davis, Raymond O. Filter, Ellen M. Geyer, A. W. Kozelka, Harry C. McKown; Princeton University, Erik Achorn, Philip M. Kretschmann; Purdue University, M. H. Liddell; Randolph-Macon College, Walter E. Bullington, Hall Canter, Frank L. Day, John R. Fisher, E. L. Fox, J. B. Haley, Wm. H. Keeble, Thomas McN. Simpson, Jr., E. Ehrlich Smith, Robert L. Wiggins; Rice Institute, F. Lovell Bixby; Rutgers University, Merle G. Galbraith; St.-Mary-of-the-Woods College, Marion A. Ames; St. Stephens College, C. Theodore Sottery; Seton Hill College, Nina C. Reilly; Simmons College, Ruth Lansing; Skidmore College, Joseph S. G. Bolton, Margaret V. Kennedy; Smith College, Mabelle B. Blake, Vera L. Brown, Anna A. Chenot, Merle E. Curti, Elsa P. Kimball; University of Southern California, Ray K. Immel; Southwestern University

(Memphis), William R. Atkinson, Waller R. Cooper, John H. Davis, A. Theodore Johnson, Marion L. MacQueen, Martin W. Storn, Margaret H. Townsend; **Sweet Briar College**, Ethel C. Randall, Jean Pauline Smith; **Syracuse University**, Julian D. Corrington, Sawyer Falk, Lawrence F. Fountain, M. Thelma Holmes, Howard Lyman, Albert E. Johnson, Henry N. Jones, Wharton Miller, Norman E. Phillips, Stewart H. Ross; **University of Texas**, Philip L. Gray, Jess H. Jackson; **Agricultural and Mechanical College of Texas**, Clifton C. Doak, Walter R. Horlacher, Stewart S. Morgan, Robert G. Reeves; **Trinity College (Hartford)**, Archie R. Bangs, E. Wilder Spaulding, Paul Spencer Wood; **Tulane University**, Ernest H. Riedel; **U. S. Naval Academy**, Alexander Dillingham, J. B. Scarborough; **University of Virginia**, H. B. Mulholland, Arthur A. Pegau, Joseph K. Roberts; **Washburn College**, George S. Fulbright, Oscar Johnson; **Washington University**, C. B. Brown, Jaroslaw K. Kostko, Amos M. Showalter; **Washington College**, Esther M. Dole; **Western Maryland College**, Lloyd M. Bertholf; **Western Reserve University**, G. E. Harmon; **University of Wichita**, Worth A. Fletcher, Clinton C. McDonald; **Willamette University**, Winifred McGill; **Williams College**, Wm. N. C. Carlton; **Winthrop College**, Irving C. Story; **University of Wisconsin**, Rebecca P. Flint, Cameron C. Gullette; **Wells College**, Evelyn T. Carroll, Lyda May Degener, John B. Edwards, Esther V. Hansen, Ralph L. Hickok, Temple R. Hollcroft, Anne C. Jones, Lula M. Richardson, William S. Rusk, Miriam R. Small, C. Oliver Weber; **College of Wooster**, Ralph V. Bangham, E. E. Cummins, Vergilius Ferm, Archibald A. Johnston, Alvin S. Tostlebe; **Yale University**, Ida Barney, Andrew Barr, Jr., Russell S. Bartlett, Walter T. Brown, Jorge A. Buendia, Robert D. Coghill, Albert B. Crawford, George Dahl, Daniel C. Darrow, Carl G. Deuber, Walter F. Dodd, Albert Feuillerat, George S. Gleason, Charles M. Goss, H. S. Gulliver, Roswell G. Ham, Wm. M. Hepburn, Joseph F. Jackson, Ralph C. Jones, Allen D. Keller, Adolph Knopf, Hugo Kortschak, H. M. March, Andrew R. Morehouse, L. T. Moore, Ainsworth O'Brien-Moore, F. I. Peterman, Charles H. Taft, Jr., Norman L. Torrey, Ralph G. Van Name, George Vernadsky, Everett O. Waters, Rudolph Willard, George E. Woodbine.

JUNIOR MEMBERS

Bethany College, Ira S. Franck, Velma F. Rodefer; **Brown University**, Grace W. Allsop, Roger W. Higgins, Semen A. Lepeshkin; **Bryn Mawr College**, Mary L. Charles; **University of California**, Haakon M. Chevalier, David McC. DeForest, Paul L. Faye, Paul K. Hartstall, Jacqueline E. de La Harpe, James E. Lynch, Benjamin Sosnick; **Carleton College**, James H. Russell; **University of Chicago**, Joseph Friedberg, R. P. Ward; **University of Cincinnati**, Eleanor Bisbee; **Columbia University**, Helen O. Carman; **Cornell College**, Oral V. Jackson; **University of Delaware**, Sydney Hoffman; **George Washington University**, Martha S. Poole; **Goucher College**, Ruth Beall, Grace L. McCann, Belle Otto, Dorothy E. Wallace; **Grinnell College**, Francis Earl Ray; **University of Iowa**, Elizabeth G. Andrews, Don B. Creager, Edith T. Erickson, Kenneth V. A. Forbes, Oliver Grosz, Ida E. Iversen, M. Channing Linthicum, Anna Mathiesen, Dorothy McCoy, G. Mervin McNulty, Alta Estelle Reece, Harold Whitehall; **Iowa State College**, Lucile W. Reynolds; **Johns Hopkins University**, Alice V. Cameron, Dorothy Lampen, Olga P. Longi, Lewis C. Moon, Alan Mozley, Alpha L. Owens, Helen A. Pratt, Ivan L. Schulze, L. A. Spindler; **University of Kentucky**, Beth Huddleston; **Louisiana State University**, Russell M. DeCoursey, Ellen C. Keaty; **Marshall College**, Roy Cleo Woods; **University of Minnesota**, Alice D. Duschak, Victor H. Noll; **University of Montana**, P. A. Bischoff; **College of the City of New York**, Lillian Gleissner; **University of North Carolina**, Raymond W. Adams, Robert D. Norton; **North Dakota Agricultural College**, Hal W. Arden, Kenneth L. Bird, Thomas L. Conniff, Myrwyn Eaton, Homer B. Huntoon, Paul W. Jones, Glenn N. Lawritson, Hedvig C. Sand, Charles A. Severinson, Wilhelm G. Solheim, Eloise Waldron, George F. Yott, Paul E. Zerby; **Northwestern University**, Don Bloch, Benjamin Boyce, Nelson S. Bushnell, John O. Chellwold, Percy W. Christian, Albert I. Coleman, Arthur S. Emig, Philip D. Jordan, Edwin C. Kirkland, George E. McClay, Maurice A. Mook, Dennis L. Murphy, Walter Pennington, William Edwards Powers; **Ohio State University**, Margaret W. C. Black, Helen J. Brown, Minnie M. Johnson, Herbert Wender; **University of Oklahoma**, Phyllis Draper, Norma Gates, Kenneth C. Kaufman, W. D. Mateer, Jennings J. Rhyne, Lydia E. Rogers, John S. Shed, Hurbert E. Warfel; **Park College**, Neil H. Baxter; **Pennsylvania State College**, James W. Stewart;

University of Pennsylvania, Virgil W. Adkisson, Walter A. Knettle; **University of Pittsburgh**, Jean MacCreight, Edward McCrady, Jr., Edgar Van Slyke; **Princeton University**, Selden Brewer, Chandler McC. Brooks, Leslie A. Chambers, Samuel E. Hill, William M. Perkins, Charles S. Shoup, Thomas M. Woodward; **Radcliffe College**, Mildred L. Hannon, Eleanor T. Lincoln, Marion Kilpatrick; **Rose Polytechnic Institute**, William L. Halstead; **St. Stephen's College**, Frank D. Coop; **Seton Hill College**, Julia McG. Brackett, Thomas W. Sheehan; **Smith College**, Milla Aissa Alihan, Dorothy M. Bell, Harold W. Landin, Margaret W. Whiteford; **Stanford University**, Hero E. Rensch; **Syracuse University**, Clarence Armstrong, Ruper L. Cortright, James L. Gardiner, Charles S. Hyneman, Clarence J. Leuba, Dorothy J. Maywalt, Ralph E. Page, Carroll K. Shaw, John N. Washburne; **Texas Agricultural and Mechanical College**, Chester P. Freeman, U. R. Gore; **Tufts College**, Julius Wendzel; **Wellesley College**, Frank Lorimer; **Western Reserve University**, Helena Hoelscher, Philip C. Scherer, Jr., Barbara Tracy; **University of Wisconsin**, George K. Eggleston, Joseph D. Hanawalt, Loren C. Hurd, John A. Kelley, John D. Lewis, Nicholas Mogendorff, Martha Nicolai, Gardner Williams; **University of Wyoming**, Forest R. Hall, Ruth Hudson, W. P. Reed; **Yale University**, Sophie B. D. Aberle, Thomas A. Abbott, Elmer T. Levine, Alfred D. Mueller, Harry R. Rudin; **Of recent university connection**, Vslvolod L. Skitsky, Library of Congress; Mary A. Saleski, University of Leipsic; Harland C. Embree, Youngstown College; Mary A. Leal, South Philadelphia High School.

NOMINATIONS FOR MEMBERSHIP

The following one hundred and seventy-nine nominations for active membership and seventy-four nominations for junior membership are printed as provided under Article IV of the Constitution. Objection to any nominee may be addressed to the Secretary, 26 Jackson Place, Washington, D. C., or to the Chairman of the Committee on Admissions¹ and will be considered by the Committee if received before November 25, 1929.

The Committee on Admissions consists of Frederick Slocum, Wesleyan, Chairman; W. C. Allee, Chicago; A. L. Bouton, New York; E. S. Brightman, Boston; E. C. Hinsdale, Mt. Holyoke; A. C. Lane, Tufts; A. O. Lovejoy, Johns Hopkins; W. T. Magruder, Ohio State; Julian Park, Buffalo.

W. M. Alexander (Sociology), Central College
W. E. Allen (Biology), California
G. L. Amrhein (Insurance), Pennsylvania
R. S. Anderson (Physiology), Yale
Elizabeth Avery (English), Smith
Gordon H. Ball (Zoology), California (L. A.)
Edward A. Bechul (Classical Languages), Tulane
Richard Beck (English), Thiel
Clarence A. Berdahl (Political Science), Illinois
Elmer O. Bergman (Civil Engineering), Colorado
Benjamin L. Birkbeck (Liberal Arts), Battle Creek
Mabelle B. Blake (Education), Smith
Geo. W. Bloemendal (Physics), Northern Normal and Industrial
Robert W. Bond (Chemistry), Emory
Andrew Boss (Agriculture), Minnesota
Clarence E. Boyd (Greek), Emory
Foss R. Brockway (Mechanic Arts), California (L. A.)
Frederick P. Brooks (Physiology), North Carolina
S. C. Brooks (Zoology), California
Cornelius J. Brosnan (History), Idaho
Joseph S. Bueno (Spanish), Rollins
F. F. Burtchett (Economics), California (L. A.)
J. H. Caldwell (History), Oklahoma Ag. and Mech.
Harold G. Calhoun (Political Science), California (L. A.)
Perry A. Caris (Mathematics), Pennsylvania

¹ Nominations should in all cases be presented through the Washington Office, 26 Jackson Place, Washington, D. C.

Harry G. Carlson (Physical Education), Colorado
Allan L. Carter (English), Texas Technological
Thomas M. Carter (Education), Albion
Merritt M. Chambers (Political Science), Oregon State
Royal N. Chapman (Entomology), Minnesota
Wilbur H. Cherry (Law), Minnesota
Warren N. Christopher (Bacteriology), Louisiana State
Phil R. Clugston (English Literature), Colorado
J. L. Collins (Agricultural Genetics), California
Esther L. Cooper (English), Iowa State
Albert B. Corey (History), St. Lawrence
Edward D. Crabb (Zoology), Pennsylvania
Maynard L. Daggy (Speech), Washington State
Ruth A. Damon (Speaking), Wellesley
Harmon O. DeGraff (Sociology), Missouri
Leo P. Delsasso (Physics), California (L. A.)
Guy L. Diffenbaugh (English), Florida State for Women
Wm. H. Dreesen (Economics, Sociology), Oregon State
Homer H. Dubs (Philosophy), Marshall
Walter T. Dunmore (Law), Western Reserve
Walter H. Echols (Education), Oklahoma Ag. and Mech.
C. L. Eckel (Civil Engineering), Colorado
Edward C. Ehrenspurger (English Literature), Wellesley
Joseph W. Ellis (Physics), California (L. A.)
Wm. Emerson (Architecture), Massachusetts Institute of Technology
Mercer G. Evans (Economics), Emory
Donald N. Ferguson (Music), Minnesota
Merlin C. Findlay (Biology), Park
J. Ralph Foster (English), Syracuse
R. H. Frazier (Electrical Engineering), Mass. Inst. of Tech.
Elizabeth Fuller (English), Iowa State
E. L. Fullmer (Biology), Baldwin-Wallace
Ira N. Fusbee (Economics), California (L. A.)
H. W. Gardner (Architecture), Massachusetts Institute of Technology
Frederic B. Garver (Economics), Minnesota
Raymond Garver (Mathematics), California (L. A.)
John E. Gee (English), Yale
Henry Giese (Agricultural Engineering), Iowa State
Edward W. Gifford (Anthropology), California
Herbert J. Gilkey (Civil Engineering), Colorado

M. P. Gonzalez (Spanish), California (L. A.)
Florence L. Goodenough (Child Welfare), Minnesota
John C. Granberry (History), Texas Technological
W. F. Guard (Veterinary Surgery), Iowa State
Robert V. Guthrie (Physics), Southwestern (Texas)
Frank L. Hager (Modern Languages), Central College
Ernest B. Harper (Sociology), Kalamazoo
Edward P. Harris (Chemistry), St. Lawrence
Rufus C. Harris (Law), Tulane
Richard Hartshorne (Geography), Minnesota
Marguerite Hearsey (English Literature), Wellesley
Herbert Heaton (History), Minnesota
Lambertus Hekhuis (Religion), Wichita
C. A. Helmecke (Modern Languages), West. State Col. of Colo.
George C. Hester (History), Southwestern (Texas)
Margaret T. Hodgen (Social Institutions), California
B. A. Howlett (Physics), Rose Polytechnic
Earl Hudelson (Education), Minnesota
Wilbur S. Hulin (Psychology), Princeton
Mark H. Ingraham (Mathematics), Wisconsin
Oscar William Irvin (Mathematics), City of New York
O. B. Jesness (Agricultural Economics), Minnesota
A. M. Johnson (Botany), California (L. A.)
Benj. W. Johnson (Education), California (L. A.)
R. H. B. Jones (Geology), Washington State
Clyde M. Kahler (Insurance), Pennsylvania
Adrian D. Keller (Mechanical Arts), California (L. A.)
Abner W. Kelley (English), Kentucky
Aubrey J. Kempner (Mathematics), Colorado
John F. Kessel (Zoology), California (L. A.)
F. G. Keyes (Chemistry), Mass. Institute of Technology
W. A. Kincaid (Spanish), California (L. A.)
Mary S. Knyper (Orientation), Minnesota
C. A. Kulp (Insurance), Pennsylvania
Guy A. Lackey (Education), Oklahoma Ag. and Mech.
Max L. W. Laistner (Ancient History), Cornell
John L. La Monte (History), Nebraska
Bertram I. Lawrence (Education), Central College
F. C. A. Lehmberg (German), Southwestern (Texas)
H. J. Leon (Classical Languages), Texas

Anna F. Liddell (Philosophy), Florida State for Women
William E. Lunt (History), Haverford
Herbert O. Lyte (German), Iowa
Wm. C. Mallalieu (History), Louisville
Arthur W. Marget (Economics), Minnesota
James W. Marsh (Mechanical Arts), California (L. A.)
John M. McBryde (English), Tulane
B. R. McElderry, Jr. (English), Western Reserve
George F. McEwen (Oceanography), California
Marion K. McKay (Economics), Pittsburgh
Robert A. MacKay (Political Science), Dalhousie
Elia Y. Melekian (Psychology), Battle Creek
Henry Edwin Meyer (Music), Southwestern (Texas)
Francisco Montau (Spanish), California
J. C. Moos (Music), Bethany
Edith W. Moses (Speaking), Wellesley
C. Calor Mota (Civil Engineering), Porto Rico
Chas. H. Paxton (Mechanical Arts), California (L. A.)
Wilford Payne (Philosophy), Wisconsin
W. E. Peik (Education), Minnesota
J. B. Phillips (Mechanical Arts), California (L. A.)
Sarah Plaisance (Modern Languages), St. Lawrence
C. W. Porter (Chemistry), California
Frederick A. Pottle (English), Yale
Chas. L. Prather (Economics), Pittsburgh
George Y. Rainich (Mathematics), Michigan
T. M. Raysor (English), Washington State
Lepine H. Rice (Mathematics), Mass. Institute of Technology
Harlow C. Richardson (English), Minnesota
Leonard T. Richardson (Modern Languages), Iowa State
Adolph R. Ringoen (Zoology), Minnesota
William C. Rose (Chemistry), Illinois
Henry Rottschaefer (Law), Minnesota
Arnold H. Rowbotham (French), California
A. Nelson Sayre (Geology), Pennsylvania
Erwin H. Schell (Economics), Massachusetts Institute of Technology
Minnie B. Scotland (Biology), N. Y. State Teachers
Eleanor B. Scott (English), Florida State for Women
J. Allen Scott (Helminthology), Johns Hopkins
J. M. D. Scott (Physiology), Saskatchewan

Reginald H. Scott (Economics), Pittsburgh
Oden E. Sheppard (Chemistry), Montana State
Charles F. Shoop (Mechanical Engineering), Minnesota
Paul F. Shope (Biology), Colorado
A. G. Silverman (Economics), Massachusetts Institute of Technology
Lawrence Smith (Economics), Wellesley
Walter B. Smith (Economics), Wellesley
Edgar K. Soper (Geology), California (L. A.)
M. E. Souza (Geology), Washington State
Caroline L. Sparrow (History), Sweet Briar
Clinton R. Stauffer (Geology), Minnesota
W. N. St. Peter (Physics), Pittsburgh
Marvel M. Stockwell (Economics), California (L. A.)
Frances P. Stribic (Mathematics), Colorado
F. B. Sumner (Biology), California
Norman J. Symons (Psychology), Dalhousie
T. H. Taft (Mech. Engineering), Mass. Inst. of Technology
George A. Thiel (Geology), Minnesota
H. G. Thuesen (Industrial Engineering), Oklahoma Ag. and Mech.
Ralph B. Tower (Business Administration), Elon
Edward P. T. Tyndall (Physics), Iowa
Alberto Vazquez (Modern Languages), Idaho
Frank K. Walter (Library), Minnesota
Arthur H. Warner (Physics), California (L. A.)
Bessie B. Wessel (Economics, Sociology), Connecticut
Waldo Westwater (Chemistry), Princeton
H. G. Wheat (Education), Marshall
Elizabeth B. White (History), Ursinus
Victor E. White (Political Science), Washburn
Malcolm M. Willey (Sociology), Minnesota
Elizabeth B. Williams (English), Colorado
M. L. Williams (Economics, Sociology), Southwestern (Texas)
Rosalind Wulzen (Animal Biology), Oregon
Clifford M. Zierer (Geography), California (L. A.)

NOMINATIONS FOR JUNIOR MEMBERSHIP

Isabel R. Abbott (History), Minnesota
Joseph E. Baker (English), Princeton
Evelyn I. Banning (Latin), Portland, Oregon

John M. Barra (Spanish, Italian), Washington, D. C.
Gertrude Bergman (Library Science), Maryland
William W. Biddle (Educational Psychology), Columbia
Ralph D. Bird (Zoology), Oklahoma
Edward T. Boardman (Biology), Florida
Charles D. Bohannan (Education), Columbia
Robert G. Brehmer, Jr. (History), Kansas State Teachers
Sarah H. Brown (Philosophy), University of Washington
Ora B. Burright (Zoology), Iowa State
Raymond G. Carey (History), Syracuse
Maurice Chazin (Romance Languages), Johns Hopkins
Rachel Clark (History), Radcliffe
Louis Clifton (Extension), Kentucky
Frederic Edward Coenen (German), Arizona
Zola K. Cooper (Zoology), Washington (St. Louis)
Hamilton Cottier (English), Princeton
Henry Cremer (Education), West Virginia
Margaret B. Crook (Religion), Smith
DeVaux de Lancey (Romance Languages), Princeton
M. Annette Dobbins (French), N. Y. State College
Jessie Dunsmore (Education), Hunter
A. R. Ford (Mechanical Engineering), Mass. Inst. of Tech.
Lawrence Gahagan (Psychology), Princeton
J. B. Greeley (Mathematics), Mass. Inst. of Technology
Maurice Halperin (Modern Languages), Oklahoma
Marion J. Hay (Romance Languages), Ohio State
Elizabeth I. Heiser (History), George Washington
Robert E. Hiller (Chemistry), Antioch
Olive Hoffman (Zoology), Oberlin
Ruth Holzapfel (Physiology), Oklahoma
M. S. Huckle (Aeronautics), Mass. Inst. of Technology
Wm. H. Jones (Chemistry), Emory
Daniel Katz (Psychology), Princeton
Ellen D. Leyburn (English), Buffalo Seminary
Richard V. Lindabury (English), Princeton
S. B. Littauer (Mathematics), Mass. Inst. of Technology
Harvey A. Ljung (Chemistry), North Carolina
Rudolph Macy (Chemistry), Edgewood Arsenal, Maryland
Harrison S. Mendenhall (Astronomy), California
Mary L. Moffett (Education), Columbia University

Cecil R. Monk (Biology), Willamette
Edward Lee Newbury (Psychology), Princeton
Elizabeth H. Norton (Fine Arts), Radcliffe
Loula M. Pangle (Mathematics), North Carolina
Maxwell G. Pangle (Economics, Sociology), North Carolina
Manning M. Pattillo (Sociology, Psychology), North Carolina
Louise E. Perkins (Physiology), Oklahoma
James W. Pugsley (Classics), Iowa
Thomas Pyles (English), Maryland
Estella A. Rachley (Physiology), Oklahoma
Karl Reuning (English), Breslau (Germany)
Henryetta Reynolds (Psychology), Colorado
Marie E. Riess (English), North Carolina
Walter A. Schulze (Chemistry), Goldthwaite, Texas
Ellen Scott (History), Kentucky
Thurman C. Scott (Psychology), Princeton
Paul W. Shankweiler (Sociology), North Carolina
Jane P. Sherman (Bacteriology), Brown
Edna S. Smith (Education), George Washington
Mignonette Spilman (Archaeology), California
Mabel A. E. Steele (English), Radcliffe
Paul J. Steele (Physics), North Carolina
Alfred B. Thomas (History), Oklahoma
Walter J. Wahnsiedler (History), Chicago
K. Carl Walz (English), Cornell
Ethel R. Ward (Chemistry), North Carolina
John M. Weidenschilling (Classical Languages), Arizona
Dorothy B. Wilkinson (French), Washington
Wm. K. Wimsatt (Latin), Georgetown
Edna S. Winters (Educational Psychology), Cornell
Enos E. Witmer (Physics), Pennsylvania